

## SEQUENCE LISTING



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<120> Chlamydia Pneumoniae Genome Sequence

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 Gly Phe Pro Leu Val Phe Ser Phe Thr Leu Leu Ser Val Phe Asp Thr  
 20 25 30  
 Ser Leu Ser Ala Thr Thr Ile Ser Leu Thr Pro Glu Asp Ser Phe His  
 35 40 45  
 Gly Asp Ser Gln Asn Ala Glu Arg Ser Tyr Asn Val Gln Ala Gly Asp  
 50 55 60  
 Val Tyr Ser Leu Thr Gly Asp Val Ser Ile Ser Asn Val Asp Asn Ser  
 65 70 75 80  
 Ala Leu Asn Lys Ala Cys Phe Asn Val Thr Ser Gly Ser Val Thr Phe  
 85 90 95  
 Ala Gly Asn His Gly Leu Tyr Phe Asn Asn Ile Ser Ser Gly Thr  
 100 105 110  
 Thr Lys Glu Gly Ala Val Leu Cys Cys Gln Asp Pro Gln Ala Thr Ala  
 115 120 125

Arg Phe Ser Gly Phe Ser Thr Leu Ser Phe Ile Gln Ser Pro Gly Asp  
 130 135 140  
 Ile Lys Glu Gln Gly Cys Leu Tyr Ser Lys Asn Ala Leu Met Leu Leu  
 145 150 155 160  
 Asn Asn Tyr Val Val Arg Phe Glu Gln Asn Gln Ser Lys Thr Lys Gly  
 165 170 175  
 Gly Ala Ile Ser Gly Ala Asn Val Thr Ile Val Gly Asn Tyr Asp Ser  
 180 185 190  
 Val Ser Phe Tyr Gln Asn Ala Ala Thr Phe Gly Gly Ala Ile His Ser  
 195 200 205  
 Ser Gly Pro Leu Gln Ile Ala Val Asn Gln Ala Glu Ile Arg Phe Ala  
 210 215 220  
 Gln Asn Thr Ala Lys Asn Gly Ser Gly Gly Ala Leu Tyr Ser Asp Gly  
 225 230 235 240  
 Asp Ile Asp Ile Asp Gln Asn Ala Tyr Val Leu Phe Arg Glu Asn Glu  
 245 250 255  
 Ala Leu Thr Thr Ala Ile Gly Lys Gly Gly Ala Val Cys Cys Leu Pro  
 260 265 270  
 Thr Ser Gly Ser Ser Thr Pro Val Pro Ile Val Thr Phe Ser Asp Asn  
 275 280 285  
 Lys Gln Leu Val Phe Glu Arg Asn His Ser Ile Met Gly Gly Gly Ala  
 290 295 300  
 Ile Tyr Ala Arg Lys Leu Ser Ile Ser Ser Gly Gly Pro Thr Leu Phe  
 305 310 315 320  
 Ile Asn Asn Ile Ser Tyr Ala Asn Ser Gln Asn Leu Gly Gly Ala Ile  
 325 330 335  
 Ala Ile Asp Thr Gly Gly Glu Ile Ser Leu Ser Ala Glu Lys Gly Thr  
 340 345 350  
 Ile Thr Phe Gln Gly Asn Arg Thr Ser Leu Pro Phe Leu Asn Gly Ile  
 355 360 365  
 His Leu Leu Gln Asn Ala Lys Phe Leu Lys Leu Gln Ala Arg Asn Gly  
 370 375 380  
 Tyr Ser Ile Glu Phe Tyr Asp Pro Ile Thr Ser Glu Ala Asp Gly Ser  
 385 390 395 400  
 Thr Gln Leu Asn Ile Asn Gly Asp Pro Lys Asn Lys Glu Tyr Thr Gly  
 405 410 415  
 Thr Ile Leu Phe Ser Gly Glu Lys Ser Leu Ala Asn Asp Pro Arg Asp  
 420 425 430  
 Phe Lys Ser Thr Ile Pro Gln Asn Val Asn Leu Ser Ala Gly Tyr Leu  
 435 440 445  
 Val Ile Lys Glu Gly Ala Glu Val Thr Val Ser Lys Phe Thr Gln Ser  
 450 455 460  
 Pro Gly Ser His Leu Val Leu Asp Leu Gly Thr Lys Leu Ile Ala Ser  
 465 470 475 480  
 Lys Glu Asp Ile Ala Ile Thr Gly Leu Ala Ile Asp Ile Asp Ser Leu  
 485 490 495  
 Ser Ser Ser Ser Thr Ala Ala Val Ile Lys Ala Asn Thr Ala Asn Lys  
 500 505 510  
 Gln Ile Ser Val Thr Asp Ser Ile Glu Leu Ile Ser Pro Thr Gly Asn  
 515 520 525  
 Ala Tyr Glu Asp Leu Arg Met Arg Asn Ser Gln Thr Phe Pro Leu Leu  
 530 535 540  
 Ser Leu Glu Pro Gly Ala Gly Gly Ser Val Thr Val Thr Ala Gly Asp  
 545 550 555 560  
 Phe Leu Pro Val Ser Pro His Tyr Gly Phe Gln Gly Asn Trp Lys Leu  
 565 570 575  
 Ala Trp Thr Gly Thr Gly Asn Lys Val Gly Glu Phe Phe Trp Asp Lys  
 580 585 590  
 Ile Asn Tyr Lys Pro Arg Pro Glu Lys Glu Gly Asn Leu Val Pro Asn  
 595 600 605

Ile Leu Trp Gly Asn Ala Val Asp Val Arg Ser Leu Met Gln Val Gln  
 610 615 620  
 Glu Thr His Ala Ser Ser Leu Gln Thr Asp Arg Gly Leu Trp Ile Asp  
 625 630 635 640  
 Gly Ile Gly Asn Phe Phe His Val Ser Ala Ser Glu Asp Asn Ile Arg  
 645 650 655  
 Tyr Arg His Asn Ser Gly Gly Tyr Val Leu Ser Val Asn Asn Glu Ile  
 660 665 670  
 Thr Pro Lys His Tyr Thr Ser Met Ala Phe Ser Gln Leu Phe Ser Arg  
 675 680 685  
 Asp Lys Asp Tyr Ala Val Ser Asn Asn Glu Tyr Arg Met Tyr Leu Gly  
 690 695 700  
 Ser Tyr Leu Tyr Gln Tyr Thr Thr Ser Leu Gly Asn Ile Phe Arg Tyr  
 705 710 715 720  
 Ala Ser Arg Asn Pro Asn Val Asn Val Gly Ile Leu Ser Arg Arg Phe  
 725 730 735  
 Leu Gln Asn Pro Leu Met Ile Phe His Phe Leu Cys Ala Tyr Gly His  
 740 745 750  
 Ala Thr Asn Asp Met Lys Thr Asp Tyr Ala Asn Phe Pro Met Val Lys  
 755 760 765  
 Asn Ser Trp Arg Asn Asn Cys Trp Ala Ile Glu Cys Gly Gly Ser Met  
 770 775 780  
 Pro Leu Leu Val Phe Glu Asn Gly Arg Leu Phe Gln Gly Ala Ile Pro  
 785 790 795 800  
 Phe Met Lys Leu Gln Leu Val Tyr Ala Tyr Gln Gly Asp Phe Lys Glu  
 805 810 815  
 Thr Thr Ala Asp Gly Arg Arg Phe Ser Asn Gly Ser Leu Thr Ser Ile  
 820 825 830  
 Ser Val Pro Leu Gly Ile Arg Phe Glu Lys Leu Ala Leu Ser Gln Asp  
 835 840 845  
 Val Leu Tyr Asp Phe Ser Phe Ser Tyr Ile Pro Asp Ile Phe Arg Lys  
 850 855 860  
 Asp Pro Ser Cys Glu Ala Ala Leu Val Ile Ser Gly Asp Ser Trp Leu  
 865 870 875 880  
 Val Pro Ala Ala His Val Ser Arg His Ala Phe Val Gly Ser Gly Thr  
 885 890 895  
 Gly Arg Tyr His Phe Asn Asp Tyr Thr Glu Leu Leu Cys Arg Gly Ser  
 900 905 910  
 Ile Glu Cys Arg Pro His Ala Arg Asn Tyr Asn Ile Asn Cys Gly Ser  
 915 920 925  
 Lys Phe Arg Phe  
 930

<210> 7  
 <211> 53  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 7  
 Lys Gln Leu Gln Glu Pro Leu Arg Ser Ala Leu Leu Glu Arg Leu Ser  
 1 5 10 15  
 Glu Trp Leu Val Leu Leu Gly Val Pro Ser Pro Glu Thr Thr Arg Ser  
 20 25 30  
 Thr Pro Glu Lys Asp Ala Asn Gln Leu Pro Lys Asp Ser Arg Asn Arg  
 35 40 45  
 Thr Leu Glu Ser Leu  
 50



<210> 8  
 <211> 1003  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 8  
 Lys Ser Phe Arg Tyr Asn Leu Ser Leu Ile Phe Ser Phe Leu Val Val  
 1 5 10 15  
 Ile Pro Leu Thr Asp Ser Thr Thr Ser Ser Leu Ser Thr Ser Leu Leu  
 20 25 30  
 Asp Glu Gly Asn Pro Gln Ser Met Arg Lys Leu Arg Ile Leu Ala Ile  
 35 40 45  
 Val Leu Ile Ala Leu Ser Ile Ile Leu Ile Ala Gly Gly Val Val Leu  
 50 55 60  
 Leu Thr Val Ala Ile Pro Gly Leu Ser Ser Val Ile Ser Ser Pro Ala  
 65 70 75 80  
 Gly Met Gly Ala Cys Ala Leu Gly Cys Val Met Leu Ala Leu Gly Ile  
 85 90 95  
 Asp Val Leu Leu Lys Lys Arg Glu Val Pro Ile Val Leu Ala Ser Val  
 100 105 110  
 Thr Thr Thr Pro Gly Thr Gly Ser Pro Arg Ser Gly Ile Ser Ile Ser  
 115 120 125  
 Gly Ala Asp Ser Thr Ile Arg Ser Leu Pro Thr Tyr Leu Leu Asp Glu  
 130 135 140  
 Gly His Pro Gln Ser Met Arg Lys Leu Arg Ile Leu Ala Ile Val Leu  
 145 150 155 160  
 Ile Val Phe Ser Ile Ile Leu Ile Ala Ser Gly Val Val Leu Leu Thr  
 165 170 175  
 Val Ala Ile Pro Gly Leu Ser Ser Val Ile Ser Ser Pro Ala Gly Met  
 180 185 190  
 Gly Ala Cys Ala Leu Gly Cys Val Met Leu Ala Leu Gly Ile Asp Val  
 195 200 205  
 Leu Leu Lys Lys Arg Glu Val Pro Ile Val Leu Ala Ser Val Thr Thr  
 210 215 220  
 Thr Pro Gly Thr Gly Ser Pro Arg Ser Gly Ile Ser Ile Ser Gly Ala  
 225 230 235 240  
 Asp Ser Thr Ile Arg Ser Leu Pro Thr Tyr Pro Leu Asp Glu Gly His  
 245 250 255  
 Pro Gln Ser Met Arg Lys Leu Arg Ile Leu Ala Ile Val Leu Ile Val  
 260 265 270  
 Phe Ser Ile Ile Leu Ile Ala Ser Gly Val Val Leu Leu Thr Val Ala  
 275 280 285  
 Ile Pro Gly Leu Ser Ser Ile Ile Ser Ser Pro Ala Glu Met Gly Ala  
 290 295 300  
 Cys Ala Leu Gly Cys Val Met Leu Ala Leu Gly Ile Asp Val Leu Leu  
 305 310 315 320  
 Lys Lys Arg Glu Val Pro Ile Val Val Pro Ala Pro Ile Pro Glu Glu  
 325 330 335  
 Val Val Ile Asp Asp Ile Asp Glu Glu Ser Ile Arg Leu Gln Gln Glu  
 340 345 350  
 Ala Glu Ala Ala Leu Ala Arg Leu Pro Glu Glu Met Ser Ala Phe Glu  
 355 360 365  
 Gly Tyr Ile Lys Val Val Glu Ser His Leu Glu Asn Met Lys Ser Leu  
 370 375 380  
 Pro Tyr Asp Gly His Gly Leu Glu Glu Lys Thr Lys His Gln Ile Arg  
 385 390 395 400  
 Val Val Arg Ser Ser Leu Lys Ala Met Val Pro Glu Phe Leu Asp Ile  
 405 410 415  
 Arg Arg Ile Phe Glu Glu Glu Glu Phe Phe Phe Leu Ser Ala Arg Lys  
 420 425 430

Arg	Leu	Ile	Asp	Leu	Ala	Thr	Thr	Leu	Val	Glu	Arg	Lys	Ile	Leu	Thr
		435					440					445			
Glu	Gln	Leu	Glu	Arg	Asn	Asn	Leu	Arg	Lys	Ala	Phe	Ser	Tyr	Leu	Tyr
	450					455					460				
Gln	Asp	Ser	Ile	Phe	Lys	Lys	Ile	Ile	Asp	Asn	Phe	Glu	Lys	Leu	Ala
465					470					475					480
Trp	Lys	Phe	Met	Ile	Leu	Ser	Lys	Ser	Ile	Cys	Arg	Phe	Thr	Ile	Ile
				485					490					495	
Phe	Glu	Asn	His	Glu	His	Gly	Val	Ala	Lys	Ser	Leu	Leu	His	Lys	Asn
			500					505					510		
Ala	Val	Leu	Glu	Glu	Lys	Val	Ile	Tyr	Arg	Ser	Leu	Gln	Lys	Ser	Tyr
		515					520					525			
Arg	Asp	Ile	Gly	Met	Ser	Ser	Ala	Lys	Met	Lys	Ile	Leu	His	Gly	Asn
	530					535					540				
Pro	Phe	Phe	Ser	Leu	Glu	Asp	Asn	Lys	Lys	Thr	Ile	Met	Lys	Glu	His
545					550					555					560
Ala	Glu	Met	Leu	Glu	Ser	Leu	Ser	Ser	Tyr	Arg	Lys	Val	Phe	Leu	Ala
				565					570					575	
Leu	Ser	Asp	Glu	Asn	Val	Val	Asp	Thr	Pro	Ser	Asp	Pro	Lys	Lys	Trp
			580					585					590		
Asp	Leu	Ser	Gly	Ile	Pro	Cys	Arg	Asp	Ala	Leu	Ser	Glu	Ile	Ser	Arg
		595					600					605			
Asp	Glu	Gln	Trp	Gln	Lys	Lys	Ala	His	Leu	Lys	His	Gln	Glu	Ser	Leu
	610					615					620				
Tyr	Thr	Gln	Ala	Arg	Asp	Arg	Leu	Thr	Asp	Gln	Ser	Ser	Lys	Glu	Asn
625					630					635					640
Gln	Lys	Glu	Leu	Glu	Lys	Ala	Glu	Gln	Glu	Tyr	Ile	Ser	Ser	Trp	Glu
				645					650					655	
Arg	Val	Lys	Lys	Phe	Glu	Ile	Glu	Arg	Val	Gln	Glu	Arg	Ile	Arg	Ala
				660				665					670		
Ile	Gln	Lys	Leu	Tyr	Pro	Asn	Ile	Leu	Glu	Arg	Glu	Glu	Glu	Thr	Thr
		675					680					685			
Gly	Gln	Glu	Thr	Val	Thr	Pro	Thr	Val	Gln	Gly	Thr	Thr	Ala	Ser	Ser
	690					695					700				
Asp	Leu	Thr	Asp	Ile	Leu	Gly	Arg	Ile	Glu	Val	Ser	Ser	Arg	Glu	Asp
705					710					715					720
Asn	Gln	Asn	Gln	Glu	Ser	Cys	Val	Lys	Val	Leu	Arg	Ser	His	Glu	Val
				725					730					735	
Glu	Met	Ser	Trp	Glu	Val	Lys	Gln	Glu	Tyr	Gly	Pro	Lys	Lys	Lys	Glu
				740				745					750		
Phe	Gln	Asp	Gln	Met	Gly	Ser	Leu	Glu	Arg	Phe	Phe	Thr	Glu	His	Ile
		755					760					765			
Glu	Glu	Leu	Glu	Val	Leu	Gln	Lys	Asp	Tyr	Ser	Lys	His	Leu	Ser	Tyr
	770					775					780				
Phe	Lys	Lys	Val	Asn	Asn	Lys	Lys	Glu	Val	Gln	Tyr	Ala	Lys	Phe	Arg
785					790					795					800
Leu	Lys	Val	Leu	Glu	Ser	Asp	Leu	Glu	Gly	Ile	Leu	Ala	Gln	Thr	Glu
				805					810					815	
Ser	Ala	Glu	Ser	Leu	Leu	Thr	Gln	Glu	Glu	Leu	Pro	Ile	Leu	Ala	Thr
				820				825					830		
Arg	Gly	Ala	Leu	Glu	Lys	Ala	Val	Phe	Lys	Gly	Ser	Leu	Cys	Cys	Ala
		835					840					845			
Leu	Ala	Ser	Lys	Ala	Lys	Pro	Tyr	Phe	Glu	Glu	Asp	Pro	Arg	Phe	Gln
	850					855					860				
Asp	Ser	Asp	Thr	Gln	Leu	Arg	Ala	Leu	Thr	Leu	Arg	Leu	Gln	Glu	Ala
865					870					875					880
Lys	Ala	Ser	Leu	Glu	Glu	Ile	Lys	Arg	Phe	Ser	Asn	Leu	Glu	Asn	
				885					890					895	
Asp	Ile	Ala	Glu	Glu	Arg	Arg	Leu	Leu	Lys	Glu	Ser	Lys	Gln	Thr	Phe
			900					905					910		

Glu Arg Ala Gly Leu Gly Val Leu Arg Glu Ile Ala Val Glu Ser Thr  
 915 920 925  
 Tyr Asp Leu Arg Ser Leu Thr Asn Thr Trp Glu Gly Thr Pro Glu Ser  
 930 935 940  
 Glu Lys Val Tyr Phe Ser Met Tyr Leu Asn Tyr Tyr Asn Glu Glu Lys  
 945 950 955 960  
 Arg Arg Ala Lys Thr Arg Leu Val Glu Met Thr Gln Arg Tyr Arg Asp  
 965 970 975  
 Phe Lys Met Ala Leu Glu Ala Met Gln Phe Asn Glu Glu Ala Leu Leu  
 980 985 990  
 Gln Glu Glu Leu Ser Ile Gln Ala Pro Ser Glu  
 995 1000

<210> 9  
 <211> 302  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 9  
 Cys Lys Tyr Ser Tyr Leu Leu Asn Tyr Pro Pro Pro Pro Arg Arg Ser  
 1 5 10 15  
 Leu Gly Val Ser Cys Ser Lys Leu Arg Ser Leu Ser Ile Thr Leu Leu  
 20 25 30  
 Val Leu Gly Val Leu Leu Leu Thr Leu Gly Ile Pro Gly Leu Thr Ala  
 35 40 45  
 Gly Ile Ser Phe Gly Ala Gly Leu Gly Phe Ser Ala Leu Gly Gly Val  
 50 55 60  
 Leu Val Ile Ser Gly Leu Leu Phe Leu Leu Val Arg Arg Glu Val Pro  
 65 70 75 80  
 Thr Val Arg Ser Glu Glu Ile Pro Arg Gly Val Ser Val Thr Pro Ser  
 85 90 95  
 Glu Glu Pro Ala Leu Glu Lys Ala Gln Lys Glu Pro Glu Thr Lys Lys  
 100 105 110  
 Ile Leu Asp Arg Leu Pro Lys Glu Leu Asp Gln Leu Asp Thr Tyr Ile  
 115 120 125  
 Gln Glu Val Phe Ala Cys Leu Glu Arg Leu Lys Asp Pro Lys Tyr Glu  
 130 135 140  
 Asp Arg Gly Leu Leu Thr Glu Ala Lys Glu Lys Leu Arg Val Phe Asp  
 145 150 155 160  
 Val Val Glu Lys Asp Met Met Ser Glu Phe Leu Asp Ile Gln Arg Val  
 165 170 175  
 Leu Asn Glu Glu Ala Tyr Tyr Val Glu His Cys Gln Asp Pro Leu Glu  
 180 185 190  
 Asn Ile Ala Tyr Glu Ile Phe Ser Ser Gln Glu Leu Arg Asp Tyr Tyr  
 195 200 205  
 Cys Ala Gly Val Cys Gly Tyr Leu Pro Ser Gly Asp Ala Arg Ala Asp  
 210 215 220  
 Arg Leu Lys Arg Ser Val Lys Glu Val Met Asp Arg Phe Met Arg Val  
 225 230 235 240  
 Thr Trp Lys Ser Trp Glu Ala Ser Val Met Leu Asp His Ser Tyr Gly  
 245 250 255  
 Val Ala Arg Glu Leu Phe Lys Lys Ala Val Gly Val Leu Glu Glu Ser  
 260 265 270  
 Val Tyr Lys Ile Leu Phe Lys Ser Tyr Arg Asp Ala Phe Tyr Glu Cys  
 275 280 285  
 Glu Lys Ala Lys Ile Gln Arg Asp Gly Arg Phe Lys Trp Leu  
 290 295 300

<210> 10  
 <211> 477  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 10  
 Asp Thr Ser Ala His Ala Glu Gln Arg Phe Arg Asp Ile Asn Gly Cys  
 1 5 10 15  
 Trp Glu Asp Leu Lys Gln Thr Ile Phe Trp Val Gly Glu His Asp Cys  
 20 25 30  
 Thr Asp Ile Glu Thr Val Arg Lys Ser Cys Met Trp Leu Asp Arg Tyr  
 35 40 45  
 Ala Asp Lys Phe Ile Leu Arg Glu Lys Glu Glu Lys Met Glu Arg His  
 50 55 60  
 Glu Leu Phe His Ala Thr Met Val Arg Lys Ala Ser Gly His Ala Tyr  
 65 70 75 80  
 Ala Lys Ala Lys Ala Ala Phe Glu Lys Glu Arg Ser Asn Glu Asn Gln  
 85 90 95  
 Arg Lys Val Lys Asp Val Glu Lys Trp Leu Ser Lys Gly Leu Ala Glu  
 100 105 110  
 Phe Arg Asn Gln Glu Ser Arg Arg Ala Arg Glu Arg Leu Arg Glu Leu  
 115 120 125  
 Gln Thr Leu Tyr Pro Glu Val Ser Val Glu Glu Arg Val Leu Glu Arg  
 130 135 140  
 Gln Arg Thr Lys Lys Val Asn Leu Glu Asn Leu Tyr Ala Asp Ile Glu  
 145 150 155 160  
 Lys Lys Tyr His His Cys Val Arg Glu Gln Glu His Tyr Trp Lys Glu  
 165 170 175  
 Val Glu Asn Lys Glu Ala Glu Tyr Arg Glu Asn Gly Glu Lys Val Leu  
 180 185 190  
 Ser Ala Glu Glu Val Ser Glu Cys Leu Gln Arg Leu Glu Asp Cys Leu  
 195 200 205  
 Glu Thr Trp Ser Lys Lys Leu Thr Lys Ala Glu Glu Ser Val Phe Glu  
 210 215 220  
 Met Lys Phe Asp Ala Thr Glu Lys Leu Gly Asn Lys Val Leu Ser Asp  
 225 230 235 240  
 Val Thr Asn Arg Leu Glu Ile Leu Cys Glu Asp Ala Glu Glu Met Ile  
 245 250 255  
 Phe Arg Ile Glu Glu Ile Glu Met Thr Leu Arg Met Val Glu Leu Pro  
 260 265 270  
 Leu Leu Phe Met Lys Asn Thr Phe Glu Lys Ala Ser Leu Gln Tyr Asn  
 275 280 285  
 Ser Cys Lys Glu Met Leu Ala Lys Val Glu Pro Gln Cys Lys Glu Ser  
 290 295 300  
 Pro Thr Tyr Arg Ser Ser Gln Glu Arg Leu Glu Arg Leu Asn Gln Asp  
 305 310 315 320  
 Leu Gln Thr Ala Tyr Thr Asn Cys Gln Glu Arg Leu Gln Gly Phe Ser  
 325 330 335  
 Asp Leu Glu Ser Lys Val Arg Thr Cys Arg Asp His Leu Arg Glu Gln  
 340 345 350  
 Met Lys His Phe Glu Val Gln Gly Leu Asn Phe Ile Asn Glu Glu Leu  
 355 360 365  
 Leu Trp Val Gly Ala Glu Leu Phe Thr Gln Ala Arg Leu Asp Leu Val  
 370 375 380  
 Ala Thr Val Pro Tyr Met Glu Phe Tyr Leu Gln Tyr His Asn Ile Lys  
 385 390 395 400  
 Arg Glu Lys Val Arg Ser Gln Trp Met Ala Lys Thr Glu Arg Tyr Arg  
 405 410 415  
 Glu Ile Arg Gln Ala Phe Gln Gly Val Met Lys Glu Asp Leu Leu Ala  
 420 425 430

Glu Asp Thr Ile Leu Lys Glu Glu Asp Tyr Trp Leu Leu Arg Asp Asp  
           435                          440                          445  
 Trp Leu Leu Arg Asp Glu Arg Lys Asn Arg Gln Arg Arg Leu Ile Cys  
           450                          455                          460  
 Asn Lys Ile Ala Ala Ala Gln Gln Arg Val Lys Gly Phe  
 465                          470                          475

<210> 11  
 <211> 334  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 11  
 Cys Lys Tyr Phe Tyr Leu Arg Ser Tyr Pro Pro Pro Pro Gln His Ser  
   1                          5                          10                          15  
 Val Gly Ser Ile Ser Ser Pro Ser Lys Leu Arg Val Leu Ala Ile Thr  
                           20                          25                          30  
 Phe Leu Val Phe Gly Met Leu Leu Ile Ser Gly Ala Leu Phe Leu  
           35                          40                          45  
 Thr Leu Gly Ile Pro Gly Leu Ser Ala Ala Ile Ser Phe Gly Leu Gly  
           50                          55                          60  
 Ile Gly Leu Ser Ala Leu Gly Gly Val Leu Met Ile Ser Gly Leu Leu  
 65                          70                          75                          80  
 Cys Leu Leu Val Lys Arg Glu Ile Pro Thr Val Arg Pro Glu Glu Ile  
                           85                          90                          95  
 Pro Glu Gly Val Ser Leu Ala Pro Ser Glu Glu Pro Ala Leu Gln Ala  
                           100                          105                          110  
 Ala Gln Lys Thr Leu Ala Gln Leu Pro Lys Glu Leu Asp Gln Leu Asp  
           115                          120                          125  
 Thr Asp Ile Gln Glu Val Phe Ala Cys Leu Arg Lys Leu Lys Asp Ser  
 130                          135                          140  
 Lys Tyr Glu Ser Arg Ser Phe Leu Asn Asp Ala Lys Lys Glu Leu Arg  
 145                          150                          155                          160  
 Val Phe Asp Phe Val Val Glu Asp Thr Leu Ser Glu Ile Phe Glu Leu  
                           165                          170                          175  
 Arg Gln Ile Val Ala Gln Glu Gly Trp Asp Leu Asn Phe Leu Ile Asn  
                           180                          185                          190  
 Gly Gly Arg Ser Leu Met Met Thr Ala Glu Ser Glu Ser Leu Asp Leu  
           195                          200                          205  
 Phe His Val Ser Lys Arg Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg  
   210                          215                          220  
 Gly Glu Gly Leu Lys Lys Ser Ala Lys Glu Ile Val Ala Arg Leu Met  
 225                          230                          235                          240  
 Ser Leu His Cys Glu Ile His Lys Val Ala Val Ala Phe Asp Arg Asn  
                           245                          250                          255  
 Ser Tyr Ala Met Ala Glu Lys Ala Phe Ala Lys Ala Leu Gly Ala Leu  
                           260                          265                          270  
 Glu Glu Ser Val Tyr Arg Ser Leu Thr Gln Ser Tyr Arg Asp Lys Phe  
           275                          280                          285  
 Leu Glu Ser Glu Arg Ala Lys Ile Pro Trp Asn Gly His Ile Thr Trp  
   290                          295                          300  
 Leu Arg Asp Asp Ala Lys Ser Gly Cys Ala Glu Lys Lys Leu Gly Met  
 305                          310                          315                          320  
 Pro Arg Asn Val Gly Arg Asn Leu Gly Lys Gln Ser Phe Gly  
                           325                          330

<210> 12  
 <211> 493  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 12

Lys	Glu	Ala	Arg	Asp	Ala	Glu	Glu	Arg	Trp	Lys	Lys	Phe	Arg	Lys	Ala
1				5					10					15	
Val	Glu	Trp	Val	Glu	Glu	Asp	Gly	Gly	Phe	Asp	Ile	Asn	Asn	Leu	Leu
			20					25					30		
Gly	Asp	Trp	Gly	Thr	Val	Leu	Asp	Pro	Tyr	Arg	Gln	Glu	Arg	Met	Asp
	35						40					45			
Glu	Ile	Thr	Phe	His	Glu	Leu	Tyr	Glu	Lys	Thr	Thr	Phe	Leu	Lys	Arg
	50					55					60				
Leu	His	Arg	Lys	Cys	Ala	Leu	Ala	Lys	Thr	Thr	Phe	Glu	Lys	Lys	Arg
65				70						75					80
Ser	Lys	Lys	Asn	Leu	Gln	Ala	Val	Glu	Glu	Ala	Asn	Ala	Arg	Arg	Leu
			85					90						95	
Lys	Tyr	Val	Arg	Asp	Trp	Tyr	Asp	Gln	Glu	Phe	Gln	Lys	Ala	Gly	Glu
			100					105					110		
Arg	Leu	Glu	Lys	Leu	His	Ala	Leu	Tyr	Pro	Glu	Val	Ser	Val	Ser	Ile
	115						120					125			
Arg	Glu	Asn	Lys	Ile	Gln	Glu	Thr	Arg	Ser	Asn	Leu	Glu	Lys	Ala	Tyr
	130				135						140				
Glu	Ala	Ile	Glu	Glu	Asn	Tyr	Arg	Cys	Cys	Val	Arg	Glu	Gln	Glu	Asp
145					150					155					160
Tyr	Trp	Lys	Glu	Glu	Glu	Lys	Arg	Glu	Ala	Glu	Phe	Arg	Glu	Arg	Gly
			165					170						175	
Asn	Lys	Ile	Leu	Ser	Pro	Glu	Glu	Leu	Glu	Ser	Ser	Leu	Glu	Gln	Phe
			180					185					190		
Asp	His	Gly	Leu	Lys	Asn	Phe	Ser	Glu	Lys	Leu	Met	Glu	Leu	Glu	Gly
	195						200					205			
His	Ile	Leu	Lys	Leu	Gln	Lys	Glu	Ala	Thr	Ala	Glu	Val	Glu	Asn	Lys
	210					215					220				
Ile	Leu	Ser	Asp	Ala	Glu	Ser	Arg	Leu	Glu	Ile	Val	Phe	Glu	Asp	Val
225					230					235					240
Lys	Glu	Met	Pro	Cys	Arg	Ile	Glu	Glu	Ile	Glu	Lys	Thr	Leu	Arg	Met
			245					250						255	
Ala	Glu	Leu	Pro	Leu	Leu	Pro	Thr	Lys	Lys	Ala	Phe	Glu	Lys	Ala	Cys
			260					265					270		
Ser	Gln	Tyr	Asn	Ser	Cys	Ala	Glu	Met	Leu	Glu	Lys	Val	Lys	Pro	Tyr
		275					280					285			
Cys	Lys	Glu	Ser	Leu	Ala	Tyr	Val	Thr	Ser	Lys	Glu	Arg	Leu	Val	Ser
	290					295					300				
Leu	Asp	Glu	Asp	Leu	Arg	Arg	Ala	Tyr	Thr	Glu	Cys	Gln	Lys	Arg	Phe
305					310					315					320
Gln	Gly	Asp	Ser	Gly	Leu	Glu	Ser	Glu	Val	Arg	Ala	Cys	Arg	Glu	Gln
			325					330						335	
Leu	Arg	Glu	Arg	Ile	Gln	Glu	Phe	Glu	Thr	Gln	Gly	Leu	Asp	Leu	Val
		340						345					350		
Glu	Lys	Glu	Leu	Leu	Cys	Val	Ser	Ser	Arg	Leu	Arg	Asn	Thr	Glu	Cys
	355						360					365			
Asp	Cys	Val	Ser	Gly	Val	Lys	Lys	Glu	Ala	Pro	Pro	Gly	Lys	Lys	Phe
	370					375					380				
Tyr	Ala	Gln	Tyr	Tyr	Asp	Glu	Ile	Tyr	Arg	Val	Arg	Val	Gln	Ser	Arg
385					390					395					400
Trp	Met	Thr	Met	Ser	Glu	Arg	Leu	Arg	Glu	Gly	Val	Gln	Ala	Cys	Asn
			405					410						415	
Lys	Met	Leu	Lys	Ala	Gly	Leu	Ser	Glu	Glu	Asp	Lys	Val	Leu	Lys	Glu
		420						425					430		
Glu	Glu	Tyr	Trp	Leu	Tyr	Arg	Glu	Glu	Arg	Lys	Asn	Lys	Glu	Lys	Arg
	435					440						445			
Leu	Val	Gly	Thr	Lys	Ile	Val	Ala	Thr	Gln	Gln	Arg	Ile	Gln	Glu	Phe
	450					455					460				
Gln	Pro	Ser	Asp	Ile	Val	Glu	Ser	Ser	Asn	Glu	Lys	Val	Ser	Leu	Met
465					470					475					480

Asp Lys Ala Arg Phe Leu Phe Asn Arg Glu Asp His Ser  
 485 490

<210> 13  
 <211> 246  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 13  
 Phe Trp Tyr Ser Ile Met Thr Ala Ala Pro Ala Ile Leu His Val Ser  
 1 5 10 15  
 Pro Thr Pro Pro Glu Glu Thr Lys Phe Val Ile Pro Lys Asp Ser Lys  
 20 25 30  
 Ser Arg Ala Leu Gly Ile Thr Leu Leu Val Val Gly Ile Leu Leu Val  
 35 40 45  
 Val Cys Gly Ala Ile Val Leu Ser Gly Val Ile Ser Gly Leu Ser Ala  
 50 55 60  
 Leu Ile Val Cys Gly Leu Gly Ile Ser Thr Ile Ser Leu Gly Val Val  
 65 70 75 80  
 Leu Phe Val Leu Gly Leu Ile Leu Leu Leu Arg Lys Arg Glu Leu Thr  
 85 90 95  
 Leu Glu Gln Ile Glu Ala Lys Gln Ile Ala Glu Thr Phe Ala Asp Glu  
 100 105 110  
 Leu Lys Glu Leu Glu Met Tyr Ile Gln Ser Thr Glu Lys Ser Leu Glu  
 115 120 125  
 Lys Ile Glu Gly Ser Arg Tyr Ser Asp Gln Gly Phe Leu Asn Arg Ala  
 130 135 140  
 Thr Gln Lys Ile Leu Asp Leu Glu Ser Ser Leu Ser Ser Ile Thr Ser  
 145 150 155 160  
 Glu Phe Arg Asp Leu Arg Gln Leu Phe Asp Glu Glu Lys Ile Glu Leu  
 165 170 175  
 Leu Ser Gly Glu Arg Leu Leu Glu Phe Ile Ala Ala Asn Leu Phe Lys  
 180 185 190  
 Gln Gly Arg Asp Val Tyr Leu Asn Leu Gly Asn Leu Ala Asp Ile Arg  
 195 200 205  
 Ala Tyr Met Gly Pro Asn Asn Tyr Lys Val Ala Met Val Ile Glu Lys  
 210 215 220  
 Ala Lys Ala Val Val His Glu Phe Ile Val Leu Thr Thr Met Ala Arg  
 225 230 235 240  
 Glu Leu Glu Phe Phe Phe  
 245

<210> 14  
 <211> 539  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 14  
 Gly Ile Arg Val Phe Phe Leu Lys Asn Lys Tyr Gly Leu Leu Lys Gly  
 1 5 10 15  
 Met Tyr Gln Glu Asn Leu Arg Leu Leu Glu Arg Leu Leu Tyr Asn Ser  
 20 25 30  
 Val Gln Lys Ser Tyr Ala Asp Arg Leu Phe Ser Tyr Glu Lys Thr Lys  
 35 40 45  
 Met Val His Asp Thr Pro Leu Ile Pro Trp Glu Glu Asp Lys Glu Lys  
 50 55 60  
 Cys Ala Glu Ala Glu Lys Ala Phe Leu Glu Gln Gln Lys Ile Leu Leu  
 65 70 75 80  
 Asp Tyr Gly Lys Ser Ile Phe Trp Leu Asn Glu Asn Asp Glu Ile Asn  
 85 90 95



Leu Asn Asp Pro Trp Ser Trp Gly Leu Asn Thr Val Arg Thr Arg Lys  
 100 105 110  
 Val Phe Gln Glu Val Asp Asp Ser Glu Arg Trp Asn His Lys Val Leu  
 115 120 125  
 Ile Gln Lys Leu Glu Asp Asp Tyr Glu Lys Leu Leu Glu Glu Ser Ser  
 130 135 140  
 Lys Glu Ser Thr Glu Ala Asn Lys Lys Leu Leu Ser Asp Leu Val Asp  
 145 150 155 160  
 Arg Leu Glu Asp Ala Lys Thr Lys Phe Phe Leu Lys Lys Gln Glu Glu  
 165 170 175  
 Val Glu Thr Arg Val Lys Asp Leu Arg Ala Arg Tyr Gly Gly Thr Val  
 180 185 190  
 Asp Pro Lys Gln Asp Thr Glu Ala Lys Lys Lys Val Glu Leu Glu Ala  
 195 200 205  
 Ser Leu Glu Thr Phe Leu Asp Ser Ile Glu Ser Glu Leu Val Gln Cys  
 210 215 220  
 Leu Glu Asp Gln Asp Ile Tyr Trp Lys Glu Gln Asp Val Lys Asp Leu  
 225 230 235 240  
 Ala Arg Thr Gln Glu Leu Glu Glu Gln Asp Ile Glu Ala Lys Arg Glu  
 245 250 255  
 Glu Ala Ala Glu Asp Leu Arg Ser Leu Asn Glu Arg Leu Lys Lys Ser  
 260 265 270  
 Lys Thr Met Leu Asp Arg Ala Lys Trp His Ile Glu Asn Ala Glu Asp  
 275 280 285  
 Ser Ile Thr Trp Trp Thr Ser Gln Ile Glu Met Lys Asp Met Lys Ala  
 290 295 300  
 Arg Leu Lys Ile Leu Lys Glu Asp Ile Thr Ser Val Leu Pro Glu Ile  
 305 310 315 320  
 Asp Glu Ile Glu Thr Cys Leu Ser Leu Glu Glu Leu Pro Leu Leu Thr  
 325 330 335  
 Thr Arg Glu Leu Leu Thr Lys Ser Tyr Leu Lys Phe Lys Ile Cys Ser  
 340 345 350  
 Glu Thr Leu Leu Lys Met Thr Ser Val Phe Glu Asn Asn Ile Tyr Val  
 355 360 365  
 Gln Glu Tyr Glu Val Gln Leu Gln Asn Leu Gly Phe Lys Leu Gln Gly  
 370 375 380  
 Ile Ser Gln Arg Phe Gly Lys Lys Gln Asp Asp Phe Ala Asn Leu Glu  
 385 390 395 400  
 Glu Gln Val Ala Leu Gln Lys Lys Arg Leu Arg Glu Leu Thr Gln Asn  
 405 410 415  
 Phe Glu Ile Gln Gly Phe Asn Phe Met Lys Glu Asp Phe Lys Ala Ala  
 420 425 430  
 Ala Lys Asp Leu Tyr Ile Arg Ser Thr Ala Glu Gln Lys Met Asn Phe  
 435 440 445  
 Asp Val Pro Cys Met Glu Leu Phe Arg Arg Tyr His Glu Glu Val Asn  
 450 455 460  
 Lys Pro Leu Leu Glu Leu Met Tyr Asn Cys Ala Asp Ser Tyr Arg Asp  
 465 470 475 480  
 Ala Lys Lys Lys Leu Cys Ser Leu Arg Leu Asp Glu Lys Glu Leu Leu  
 485 490 495  
 Gln Lys Glu Ile Lys Lys Glu Glu Phe Tyr Gln Lys Lys Gln Gln Arg  
 500 505 510  
 His Ala Asp Arg Ser Arg His Thr Thr Tyr Gln Lys Leu Arg Ile Ala  
 515 520 525  
 Glu Glu Leu Ala Leu Glu Leu Lys Lys Lys Ile  
 530 535

<210> 15

<211> 866

<212> PRT

<213> Chlamydia pneumoniae

<400> 15

Leu	Arg	Asp	Arg	Leu	Ala	Phe	Phe	Ile	Tyr	Leu	Leu	Tyr	Trp	Lys	Glu
1				5					10					15	
Ser	Pro	Leu	Arg	Glu	Lys	Lys	Val	Val	Met	Lys	Ile	Pro	Leu	Arg	Phe
		20						25					30		
Leu	Leu	Ile	Ser	Leu	Val	Pro	Thr	Leu	Ser	Met	Ser	Asn	Leu	Leu	Gly
		35					40					45			
Ala	Ala	Thr	Thr	Glu	Glu	Leu	Ser	Ala	Ser	Asn	Ser	Phe	Asp	Gly	Thr
	50					55					60				
Thr	Ser	Thr	Thr	Ser	Phe	Ser	Ser	Lys	Thr	Ser	Ser	Ala	Thr	Asp	Gly
65					70					75				80	
Thr	Asn	Tyr	Val	Phe	Lys	Asp	Ser	Val	Val	Ile	Glu	Asn	Val	Pro	Lys
			85					90						95	
Thr	Gly	Glu	Thr	Gln	Ser	Thr	Ser	Cys	Phe	Lys	Asn	Asp	Ala	Ala	Ala
		100						105					110		
Gly	Asp	Leu	Asn	Phe	Leu	Gly	Gly	Gly	Phe	Ser	Phe	Thr	Phe	Ser	Asn
	115						120					125			
Ile	Asp	Ala	Thr	Thr	Ala	Ser	Gly	Ala	Ala	Ile	Gly	Ser	Glu	Ala	Ala
	130					135					140				
Asn	Lys	Thr	Val	Thr	Leu	Ser	Gly	Phe	Ser	Ala	Leu	Ser	Phe	Leu	Lys
145					150					155				160	
Ser	Pro	Ala	Ser	Thr	Val	Thr	Asn	Gly	Leu	Gly	Ala	Ile	Asn	Val	Lys
			165					170						175	
Gly	Asn	Leu	Ser	Leu	Leu	Asp	Asn	Asp	Lys	Val	Leu	Ile	Gln	Asp	Asn
		180						185					190		
Phe	Ser	Thr	Gly	Asp	Gly	Gly	Ala	Ile	Asn	Cys	Ala	Gly	Ser	Leu	Lys
		195					200					205			
Ile	Ala	Asn	Asn	Lys	Ser	Leu	Ser	Phe	Ile	Gly	Asn	Ser	Ser	Ser	Thr
	210					215					220				
Arg	Gly	Gly	Ala	Ile	His	Thr	Lys	Asn	Leu	Thr	Leu	Ser	Ser	Gly	Gly
225					230					235				240	
Glu	Thr	Leu	Phe	Gln	Gly	Asn	Thr	Ala	Pro	Thr	Ala	Ala	Gly	Lys	Gly
			245						250					255	
Gly	Ala	Ile	Ala	Ile	Ala	Asp	Ser	Gly	Thr	Leu	Ser	Ile	Ser	Gly	Asp
		260						265					270		
Ser	Gly	Asp	Ile	Ile	Phe	Glu	Gly	Asn	Thr	Ile	Gly	Ala	Thr	Gly	Thr
		275						280				285			
Val	Ser	His	Ser	Ala	Ile	Asp	Leu	Gly	Thr	Ser	Ala	Lys	Ile	Thr	Ala
	290					295					300				
Leu	Arg	Ala	Ala	Gln	Gly	His	Thr	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr
305				310						315				320	
Val	Thr	Gly	Ser	Thr	Ser	Val	Ala	Asp	Ala	Leu	Asn	Ile	Asn	Ser	Pro
			325						330					335	
Asp	Thr	Gly	Asp	Asn	Lys	Glu	Tyr	Thr	Gly	Thr	Ile	Val	Phe	Ser	Gly
		340						345					350		
Glu	Lys	Leu	Thr	Glu	Ala	Glu	Ala	Lys	Asp	Glu	Lys	Asn	Arg	Thr	Ser
		355					360					365			
Lys	Leu	Leu	Gln	Asn	Val	Ala	Phe	Lys	Asn	Gly	Thr	Val	Val	Leu	Lys
	370					375					380				
Gly	Asp	Val	Val	Leu	Ser	Ala	Asn	Gly	Phe	Ser	Gln	Asp	Ala	Asn	Ser
385				390						395				400	
Lys	Leu	Ile	Met	Asp	Leu	Gly	Thr	Ser	Leu	Val	Ala	Asn	Thr	Glu	Ser
			405						410					415	
Ile	Glu	Leu	Thr	Asn	Leu	Glu	Ile	Asn	Ile	Asp	Ser	Leu	Arg	Asn	Gly
		420						425					430		
Lys	Lys	Ile	Lys	Leu	Ser	Ala	Ala	Thr	Ala	Gln	Lys	Asp	Ile	Arg	Ile
		435					440					445			
Asp	Arg	Pro	Val	Val	Leu	Ala	Ile	Ser	Asp	Glu	Ser	Phe	Tyr	Gln	Asn
	450					455				460					
Gly	Phe	Leu	Asn	Glu	Asp	His	Ser	Tyr	Asp	Gly	Ile	Leu	Glu	Leu	Asp
465					470					475				480	

Ala Gly Lys Asp Ile Val Ile Ser Ala Asp Ser Arg Ser Ile Asp Ala  
 485 490 495  
 Val Gln Ser Pro Tyr Gly Tyr Gln Gly Lys Trp Thr Ile Asn Trp Ser  
 500 505 510  
 Thr Asp Asp Lys Lys Ala Thr Val Ser Trp Ala Lys Gln Ser Phe Asn  
 515 520 525  
 Pro Thr Ala Glu Gln Glu Ala Pro Leu Val Pro Asn Leu Leu Trp Gly  
 530 535 540  
 Ser Phe Ile Asp Val Arg Ser Phe Gln Asn Phe Ile Glu Leu Gly Thr  
 545 550 555 560  
 Glu Gly Ala Pro Tyr Glu Lys Arg Phe Trp Val Ala Gly Ile Ser Asn  
 565 570 575  
 Val Leu His Arg Ser Gly Arg Glu Asn Gln Arg Lys Phe Arg His Val  
 580 585 590  
 Ser Gly Gly Ala Val Val Gly Ala Ser Thr Arg Met Pro Gly Gly Asp  
 595 600 605  
 Thr Leu Ser Leu Gly Phe Ala Gln Leu Phe Ala Arg Asp Lys Asp Tyr  
 610 615 620  
 Phe Met Asn Thr Asn Phe Ala Lys Thr Tyr Ala Gly Ser Leu Arg Leu  
 625 630 635 640  
 Gln His Asp Ala Ser Leu Tyr Ser Val Val Ser Ile Leu Leu Gly Glu  
 645 650 655  
 Gly Gly Leu Arg Glu Ile Leu Leu Pro Tyr Val Ser Lys Thr Leu Pro  
 660 665 670  
 Cys Ser Phe Tyr Gly Gln Leu Ser Tyr Gly His Thr Asp His Arg Met  
 675 680 685  
 Lys Thr Glu Ser Leu Pro Pro Pro Pro Pro Thr Leu Ser Thr Asp His  
 690 695 700  
 Thr Ser Trp Gly Gly Tyr Val Trp Ala Gly Glu Leu Gly Thr Arg Val  
 705 710 715 720  
 Ala Val Glu Asn Thr Ser Gly Arg Gly Phe Phe Gln Glu Tyr Thr Pro  
 725 730 735  
 Phe Val Lys Val Gln Ala Val Tyr Ala Arg Gln Asp Ser Phe Val Glu  
 740 745 750  
 Leu Gly Ala Ile Ser Arg Asp Phe Ser Asp Ser His Leu Tyr Asn Leu  
 755 760 765  
 Ala Ile Pro Leu Gly Ile Lys Leu Glu Lys Arg Phe Ala Glu Gln Tyr  
 770 775 780  
 Tyr His Val Val Ala Met Tyr Ser Pro Asp Val Cys Arg Ser Asn Pro  
 785 790 795 800  
 Lys Cys Thr Thr Thr Leu Leu Ser Asn Gln Gly Ser Trp Lys Thr Lys  
 805 810 815  
 Gly Ser Asn Leu Ala Arg Gln Ala Gly Ile Val Gln Ala Ser Gly Phe  
 820 825 830  
 Arg Ser Leu Gly Ala Ala Ala Glu Leu Phe Gly Asn Phe Gly Phe Glu  
 835 840 845  
 Trp Arg Gly Ser Ser Arg Ser Tyr Asn Val Asp Ala Gly Ser Lys Ile  
 850 855 860  
 Lys Phe  
 865

<210> 16  
 <211> 186  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 16  
 Ile Gln Asn Gln Ser Ile Tyr Phe Thr Met Lys Ser Ser Phe Pro Lys  
 1 5 10 15  
 Phe Val Phe Ser Thr Phe Ala Ile Phe Pro Leu Ser Met Ile Ala Thr  
 20 25 30

Glu Thr Val Leu Asp Ser Ser Ala Ser Phe Asp Gly Asn Lys Asn Gly  
 35 40 45  
 Asn Phe Ser Val Arg Glu Ser Gln Glu Asp Ala Gly Thr Thr Tyr Leu  
 50 55 60  
 Phe Lys Gly Asn Val Thr Leu Glu Asn Ile Pro Gly Thr Gly Thr Ala  
 65 70 75 80  
 Ile Thr Lys Ser Cys Phe Asn Asn Thr Lys Gly Asp Leu Thr Phe Thr  
 85 90 95  
 Gly Asn Gly Asn Ser Leu Leu Phe Gln Thr Val Asp Ala Gly Thr Val  
 100 105 110  
 Ala Gly Ala Ala Val Asn Ser Ser Val Val Asp Lys Ser Thr Thr Phe  
 115 120 125  
 Ile Gly Phe Ser Ser Leu Ser Phe Ile Ala Ser Pro Gly Ser Ser Ile  
 130 135 140  
 Thr Thr Gly Lys Gly Ala Val Ser Cys Ser Thr Gly Ser Leu Ser Leu  
 145 150 155 160  
 Thr Lys Met Ser Val Cys Ser Ser Ala Lys Thr Phe Gln Arg Ile Met  
 165 170 175  
 Ala Val Leu Ser Pro Gln Lys Leu Phe His  
 180 185

<210> 17  
 <211> 780  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 17  
 Leu Glu Phe Asp Lys Asn Val Ser Leu Leu Phe Ser Lys Asn Phe Ser  
 1 5 10 15  
 Thr Asp Asn Gly Gly Ala Ile Thr Ala Lys Thr Leu Ser Leu Thr Gly  
 20 25 30  
 Thr Thr Met Ser Ala Leu Phe Ser Glu Asn Thr Ser Ser Lys Lys Gly  
 35 40 45  
 Gly Ala Ile Gln Thr Ser Asp Ala Leu Thr Ile Thr Gly Asn Gln Gly  
 50 55 60  
 Glu Val Ser Phe Ser Asp Asn Thr Ser Ser Asp Ser Gly Ala Ala Ile  
 65 70 75 80  
 Phe Thr Glu Ala Ser Val Thr Ile Ser Asn Asn Ala Lys Val Ser Phe  
 85 90 95  
 Ile Asp Asn Lys Val Thr Gly Ala Ser Ser Thr Thr Gly Asp Met  
 100 105 110  
 Ser Gly Gly Ala Ile Cys Ala Tyr Lys Thr Ser Thr Asp Thr Lys Val  
 115 120 125  
 Thr Leu Thr Gly Asn Gln Met Leu Leu Phe Ser Asn Asn Thr Ser Thr  
 130 135 140  
 Thr Ala Gly Gly Ala Ile Tyr Val Lys Lys Leu Glu Leu Ala Ser Gly  
 145 150 155 160  
 Gly Leu Thr Leu Phe Ser Arg Asn Ser Val Asn Gly Gly Thr Ala Pro  
 165 170 175  
 Lys Gly Gly Ala Ile Ala Ile Glu Asp Ser Gly Glu Leu Ser Leu Ser  
 180 185 190  
 Ala Asp Ser Gly Asp Ile Val Phe Leu Gly Asn Thr Val Thr Ser Thr  
 195 200 205  
 Thr Pro Gly Thr Asn Arg Ser Ser Ile Asp Leu Gly Thr Ser Ala Lys  
 210 215 220  
 Met Thr Ala Leu Arg Ser Ala Ala Gly Arg Ala Ile Tyr Phe Tyr Asp  
 225 230 235 240  
 Pro Ile Thr Thr Gly Ser Ser Thr Thr Val Thr Asp Val Leu Lys Val  
 245 250 255  
 Asn Glu Thr Pro Ala Asp Ser Ala Leu Gln Tyr Thr Gly Asn Ile Ile  
 260 265 270

Phe Thr Gly Glu Lys Leu Ser Glu Thr Glu Ala Ala Asp Ser Lys Asn  
275 280 285  
Leu Thr Ser Lys Leu Leu Gln Pro Val Thr Leu Ser Gly Gly Thr Leu  
290 295 300  
Ser Leu Lys His Gly Val Thr Leu Gln Thr Gln Ala Phe Thr Gln Gln  
305 310 315 320  
Ala Asp Ser Arg Leu Glu Met Asp Val Gly Thr Thr Leu Glu Pro Ala  
325 330 335  
Asp Thr Ser Thr Ile Asn Asn Leu Val Ile Asn Ile Ser Ser Ile Asp  
340 345 350  
Gly Ala Lys Lys Ala Lys Ile Glu Thr Lys Ala Thr Ser Lys Asn Leu  
355 360 365  
Thr Leu Ser Gly Thr Ile Thr Leu Leu Asp Pro Thr Gly Thr Phe Tyr  
370 375 380  
Glu Asn His Ser Leu Arg Asn Pro Gln Ser Tyr Asp Ile Leu Glu Leu  
385 390 395 400  
Lys Ala Ser Gly Thr Val Thr Ser Thr Ala Val Thr Pro Asp Pro Ile  
405 410 415  
Met Gly Glu Lys Phe His Tyr Gly Tyr Gln Gly Thr Trp Gly Pro Ile  
420 425 430  
Val Trp Gly Thr Gly Ala Ser Thr Thr Ala Thr Phe Asn Trp Thr Lys  
435 440 445  
Thr Gly Tyr Ile Pro Asn Pro Glu Arg Ile Gly Ser Leu Val Pro Asn  
450 455 460  
Ser Leu Trp Asn Ala Phe Ile Asp Ile Ser Ser Leu His Tyr Leu Met  
465 470 475 480  
Glu Thr Ala Asn Glu Gly Leu Gln Gly Asp Arg Ala Phe Trp Cys Ala  
485 490 495  
Gly Leu Ser Asn Phe Phe His Lys Asp Ser Thr Lys Thr Arg Arg Gly  
500 505 510  
Phe Arg His Leu Ser Gly Gly Tyr Val Ile Gly Gly Asn Leu His Thr  
515 520 525  
Cys Ser Asp Lys Ile Leu Ser Ala Ala Phe Cys Gln Leu Phe Gly Arg  
530 535 540  
Asp Arg Asp Tyr Phe Val Ala Lys Asn Gln Gly Thr Val Tyr Gly Gly  
545 550 555 560  
Thr Leu Tyr Tyr Gln His Asn Glu Thr Tyr Ile Ser Leu Pro Cys Lys  
565 570 575  
Leu Arg Pro Cys Ser Leu Ser Tyr Val Pro Thr Glu Ile Pro Val Leu  
580 585 590  
Phe Ser Gly Asn Leu Ser Tyr Thr His Thr Asp Asn Asp Leu Lys Thr  
595 600 605  
Lys Tyr Thr Thr Tyr Pro Thr Val Lys Gly Ser Trp Gly Asn Asp Ser  
610 615 620  
Phe Ala Leu Glu Phe Gly Gly Arg Ala Pro Ile Cys Leu Asp Glu Ser  
625 630 635 640  
Ala Leu Phe Glu Gln Tyr Met Pro Phe Met Lys Leu Gln Phe Val Tyr  
645 650 655  
Ala His Gln Glu Gly Phe Lys Glu Gln Gly Thr Glu Ala Arg Glu Phe  
660 665 670  
Gly Ser Ser Arg Leu Val Asn Leu Ala Leu Pro Ile Gly Ile Arg Phe  
675 680 685  
Asp Lys Glu Ser Asp Cys Gln Asp Ala Thr Tyr Asn Leu Thr Leu Gly  
690 695 700  
Tyr Thr Val Asp Leu Val Arg Ser Asn Pro Asp Cys Thr Thr Thr Leu  
705 710 715 720  
Arg Ile Ser Gly Asp Ser Trp Lys Thr Phe Gly Thr Asn Leu Ala Arg  
725 730 735  
Gln Ala Leu Val Leu Arg Ala Gly Asn His Phe Cys Phe Asn Ser Asn  
740 745 750

Phe Glu Ala Phe Ser Gln Phe Ser Phe Glu Leu Arg Gly Ser Ser Arg  
755 760 765  
Asn Tyr Asn Val Asp Leu Gly Ala Lys Tyr Gln Phe  
770 775 780

<210> 18  
<211> 602  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 18  
Arg Ser Asp Phe Ala Leu Lys Arg Gly Cys His Met Arg Ser Ser Phe  
1 5 10 15  
Ser Leu Leu Leu Ile Ser Ser Ser Leu Ala Phe Pro Leu Leu Met Ser  
20 25 30  
Val Ser Ala Asp Ala Ala Asp Leu Thr Leu Gly Ser Arg Asp Ser Tyr  
35 40 45  
Asn Gly Asp Thr Ser Thr Thr Glu Phe Thr Pro Lys Ala Ala Thr Ser  
50 55 60  
Asp Ala Ser Gly Thr Thr Tyr Ile Leu Asp Gly Asp Val Ser Ile Ser  
65 70 75 80  
Gln Ala Gly Lys Gln Thr Ser Leu Thr Thr Ser Cys Phe Ser Asn Thr  
85 90 95  
Ala Gly Asn Leu Thr Phe Leu Gly Asn Gly Phe Ser Leu His Phe Asp  
100 105 110  
Asn Ile Ile Ser Ser Thr Val Ala Gly Val Val Val Ser Asn Thr Ala  
115 120 125  
Ala Ser Gly Ile Thr Lys Phe Ser Gly Phe Ser Thr Leu Arg Met Leu  
130 135 140  
Ala Ala Pro Arg Thr Thr Gly Lys Gly Ala Ile Lys Ile Thr Asp Gly  
145 150 155 160  
Leu Val Phe Glu Ser Ile Gly Asn Leu Asp Leu Asn Glu Asn Ala Ser  
165 170 175  
Ser Glu Asn Gly Gly Ala Ile Asn Thr Lys Thr Leu Ser Leu Thr Gly  
180 185 190  
Ser Thr Arg Phe Val Ala Phe Leu Gly Asn Ser Ser Ser Gln Gln Gly  
195 200 205  
Gly Ala Ile Tyr Ala Ser Gly Asp Ser Val Ile Ser Glu Asn Ala Gly  
210 215 220  
Ile Leu Ser Phe Gly Asn Asn Ser Ala Thr Thr Ser Gly Gly Ala Ile  
225 230 235 240  
Ser Ala Glu Gly Asn Leu Val Ile Ser Asn Asn Gln Asn Ile Phe Phe  
245 250 255  
Asp Gly Cys Lys Ala Thr Thr Asn Gly Gly Ala Ile Asp Cys Asn Lys  
260 265 270  
Ala Gly Ala Asn Pro Asp Pro Ile Leu Thr Leu Ser Gly Asn Glu Ser  
275 280 285  
Leu His Phe Leu Asn Asn Thr Ala Gly Asn Ser Gly Gly Ala Ile Tyr  
290 295 300  
Thr Lys Lys Leu Val Leu Ser Ser Gly Arg Gly Gly Val Leu Phe Ser  
305 310 315 320  
Asn Asn Lys Ala Ala Asn Ala Thr Pro Lys Gly Gly Ala Ile Ala Ile  
325 330 335  
Leu Asp Ser Gly Glu Ile Ser Ile Ser Ala Asp Leu Gly Asn Ile Ile  
340 345 350  
Phe Glu Gly Asn Thr Thr Ser Thr Thr Gly Ser Pro Ala Ser Val Thr  
355 360 365  
Arg Asn Ala Ile Asp Leu Ala Ser Asn Ala Lys Phe Leu Asn Leu Arg  
370 375 380  
Ala Thr Arg Gly Asn Lys Val Ile Phe Tyr Asp Pro Ile Thr Ser Ser  
385 390 395 400

Gly Ala Thr Asp Lys Leu Ser Leu Asn Lys Ala Asp Ala Gly Ser Gly  
 405 410 415  
 Asn Thr Tyr Glu Gly Tyr Ile Val Phe Ser Gly Glu Lys Leu Ser Glu  
 420 425 430  
 Glu Glu Leu Lys Lys Pro Asp Asn Leu Lys Ser Thr Phe Thr Gln Ala  
 435 440 445  
 Val Glu Leu Ala Ala Gly Ala Leu Val Leu Lys Asp Gly Val Thr Val  
 450 455 460  
 Val Ala Asn Thr Ile Thr Gln Val Glu Gly Ser Lys Val Val Met Asp  
 465 470 475 480  
 Gly Gly Thr Thr Phe Glu Ala Ser Ala Glu Gly Val Thr Leu Asn Gly  
 485 490 495  
 Leu Ala Ile Asn Ile Asp Ser Leu Asp Gly Thr Asn Lys Ala Ile Ile  
 500 505 510  
 Lys Ala Thr Ala Ala Ser Lys Asp Val Ala Leu Ser Gly Pro Ile Met  
 515 520 525  
 Leu Val Asp Ala Gln Gly Asn Tyr Tyr Glu His His Asn Leu Ser Gln  
 530 535 540  
 Gln Gln Val Phe Pro Leu Ile Glu Leu Ser Ala Gln Gly Thr Met Thr  
 545 550 555 560  
 Thr Thr Asp Ile Pro Asp Thr Pro Ile Leu Asn Thr Thr Asn His Tyr  
 565 570 575  
 Gly Tyr Gln Gly Asn Trp Asn Asn Cys Leu Gly Arg Arg Cys Asn Cys  
 580 585 590  
 Lys Asn Lys Lys Cys Tyr Leu Asn Leu Asp  
 595 600

<210> 19  
 <211> 359  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 19  
 Ile Leu Arg Ile Thr Met Gly Ile Lys Gly Thr Gly Ile Ile Val Trp  
 1 5 10 15  
 Val Asp Asp Ala Thr Ala Lys Thr Lys Asn Ala Thr Leu Thr Trp Thr  
 20 25 30  
 Lys Thr Gly Tyr Lys Pro Asn Pro Glu Arg Gln Gly Pro Leu Val Pro  
 35 40 45  
 Asn Ser Leu Trp Gly Ser Phe Val Asp Val Arg Ser Ile Gln Ser Leu  
 50 55 60  
 Met Asp Arg Ser Thr Ser Ser Leu Ser Ser Thr Asn Leu Trp Val  
 65 70 75 80  
 Ser Gly Ile Ala Asp Phe Leu His Glu Asp Gln Lys Gly Asn Gln Arg  
 85 90 95  
 Ser Tyr Arg His Ser Ser Ala Gly Tyr Ala Leu Gly Gly Gly Phe Phe  
 100 105 110  
 Thr Ala Ser Glu Asn Phe Phe Asn Phe Ala Phe Cys Gln Leu Phe Gly  
 115 120 125  
 Tyr Asp Lys Asp His Leu Val Ala Lys Asn His Thr His Val Tyr Ala  
 130 135 140  
 Gly Ala Met Ser Tyr Arg His Leu Gly Glu Ser Lys Thr Leu Ala Lys  
 145 150 155 160  
 Ile Leu Ser Gly Asn Ser Asp Ser Leu Pro Phe Val Phe Asn Ala Arg  
 165 170 175  
 Phe Ala Tyr Gly His Thr Asp Asn Asn Met Thr Thr Lys Tyr Thr Gly  
 180 185 190  
 Tyr Ser Pro Val Lys Gly Ser Trp Gly Asn Asp Ala Phe Gly Ile Glu  
 195 200 205  
 Cys Gly Gly Ala Ile Pro Val Val Ala Ser Gly Arg Arg Ser Trp Val  
 210 215 220



Asp Thr His Thr Pro Phe Leu Asn Leu Glu Met Ile Tyr Ala His Gln  
 225 230 235 240  
 Asn Asp Phe Lys Glu Asn Gly Thr Glu Gly Arg Ser Phe Gln Ser Glu  
 245 250 255  
 Asp Leu Phe Asn Leu Ala Val Pro Val Gly Ile Lys Phe Glu Lys Phe  
 260 265 270  
 Ser Asp Lys Ser Thr Tyr Asp Leu Ser Ile Ala Tyr Val Pro Asp Val  
 275 280 285  
 Ile Arg Asn Asp Pro Gly Cys Thr Thr Thr Leu Met Val Ser Gly Asp  
 290 295 300  
 Ser Trp Ser Thr Cys Gly Thr Ser Leu Ser Arg Gln Ala Leu Leu Val  
 305 310 315 320  
 Arg Ala Gly Asn His His Ala Phe Ala Ser Asn Phe Glu Val Phe Ser  
 325 330 335  
 Gln Phe Glu Val Glu Leu Arg Gly Ser Ser Arg Ser Tyr Ala Ile Asp  
 340 345 350  
 Leu Gly Gly Arg Phe Gly Phe  
 355

<210> 20

<211> 497

<212> PRT

<213> Chlamydia pneumoniae

<400> 20

Glu Tyr Asn Met Lys Thr Ser Val Ser Met Leu Leu Ala Leu Leu Cys  
 1 5 10 15  
 Ser Gly Ala Ser Ser Ile Val Leu His Ala Ala Thr Thr Pro Leu Asn  
 20 25 30  
 Pro Glu Asp Gly Phe Ile Gly Glu Gly Asn Thr Asn Thr Phe Ser Pro  
 35 40 45  
 Lys Ser Thr Thr Asp Ala Ala Gly Thr Thr Tyr Ser Leu Thr Gly Glu  
 50 55 60  
 Val Leu Tyr Ile Asp Pro Gly Lys Gly Gly Ser Ile Thr Gly Thr Cys  
 65 70 75 80  
 Phe Val Glu Thr Ala Gly Asp Leu Thr Phe Leu Gly Asn Gly Asn Thr  
 85 90 95  
 Leu Lys Phe Leu Ser Val Asp Ala Gly Ala Asn Ile Ala Val Ala His  
 100 105 110  
 Val Gln Gly Ser Lys Asn Leu Ser Phe Thr Asp Phe Leu Ser Leu Val  
 115 120 125  
 Ile Thr Glu Ser Pro Lys Ser Ala Val Thr Thr Gly Lys Gly Ser Leu  
 130 135 140  
 Val Ser Leu Gly Ala Val Gln Leu Gln Asp Ile Asn Thr Leu Val Leu  
 145 150 155 160  
 Thr Ser Asn Ala Ser Val Glu Asp Gly Gly Val Ile Lys Gly Asn Ser  
 165 170 175  
 Cys Leu Ile Gln Gly Ile Lys Asn Ser Ala Ile Phe Gly Gln Asn Thr  
 180 185 190  
 Ser Ser Lys Lys Gly Gly Ala Ile Ser Thr Thr Gln Gly Leu Thr Ile  
 195 200 205  
 Glu Asn Asn Leu Gly Thr Leu Lys Phe Asn Glu Asn Lys Ala Val Thr  
 210 215 220  
 Ser Gly Gly Ala Leu Asp Leu Gly Ala Ala Ser Thr Phe Thr Ala Asn  
 225 230 235 240  
 His Glu Leu Ile Phe Ser Gln Asn Lys Thr Ser Gly Asn Ala Ala Asn  
 245 250 255  
 Gly Gly Ala Ile Asn Cys Ser Gly Asp Leu Thr Phe Thr Asp Asn Thr  
 260 265 270  
 Ser Leu Leu Leu Gln Glu Asn Ser Thr Met Gln Asp Gly Gly Ala Leu  
 275 280 285

Cys Ser Thr Gly Thr Ile Ser Ile Thr Gly Ser Asp Ser Ile Asn Val  
 290 295 300  
 Ile Gly Asn Thr Ser Gly Gln Lys Gly Gly Ala Ile Ser Ala Ala Ser  
 305 310 315 320  
 Leu Lys Ile Leu Gly Gly Gln Gly Gly Ala Leu Phe Ser Asn Asn Val  
 325 330 335  
 Val Thr His Ala Thr Pro Leu Gly Gly Ala Ile Phe Ile Asn Thr Gly  
 340 345 350  
 Gly Ser Leu Gln Leu Phe Thr Gln Gly Gly Asp Ile Val Phe Glu Gly  
 355 360 365  
 Asn Gln Val Thr Thr Thr Ala Pro Asn Ala Thr Thr Lys Arg Asn Val  
 370 375 380  
 Ile His Leu Glu Ser Thr Ala Lys Trp Thr Gly Leu Ala Ala Ser Gln  
 385 390 395 400  
 Gly Asn Ala Ile Tyr Phe Tyr Asp Pro Ile Thr Thr Asn Asp Thr Gly  
 405 410 415  
 Ala Ser Asp Asn Leu Arg Ile Asn Glu Val Ser Ala Asn Gln Lys Leu  
 420 425 430  
 Ser Gly Ser Ile Val Phe Ser Gly Glu Arg Leu Ser Thr Ala Glu Ala  
 435 440 445  
 Ile Ala Glu Asn Leu Thr Ser Arg Ile Asn Gln Pro Val Thr Leu Val  
 450 455 460  
 Glu Gly Ser Leu Val Leu Lys Gln Gly Val Thr Leu Ile Thr Gln Gly  
 465 470 475 480  
 Phe Ser Gln Glu Pro Glu Ser Thr Leu Leu Asp Leu Gly Thr Ser  
 485 490 495  
 Leu

<210> 21  
 <211> 450  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 21  
 Ala Ser Thr Glu Asp Ile Val Ile Thr Asn Leu Ser Ile Asn Ala Asp  
 1 5 10 15  
 Thr Ile Tyr Gly Lys Asn Pro Ile Asn Ile Val Ala Ser Ala Ala Asn  
 20 25 30  
 Lys Asn Ile Thr Leu Thr Gly Thr Leu Ala Leu Val Asn Ala Asp Gly  
 35 40 45  
 Ala Phe Tyr Glu Asn His Thr Leu Gln Asp Ser Gln Asp Tyr Ser Phe  
 50 55 60  
 Val Lys Leu Ser Pro Gly Ala Gly Gly Thr Ile Ile Thr Gln Asp Ala  
 65 70 75 80  
 Ser Gln Lys Pro Leu Glu Val Ala Pro Ser Arg Pro His Tyr Gly Tyr  
 85 90 95  
 Gln Gly His Trp Asn Val Gln Val Ile Pro Gly Thr Gly Thr Gln Pro  
 100 105 110  
 Ser Gln Ala Asn Leu Glu Trp Val Arg Thr Gly Tyr Leu Pro Asn Pro  
 115 120 125  
 Glu Arg Gln Gly Ser Leu Val Pro Asn Ser Leu Trp Gly Ser Phe Val  
 130 135 140  
 Asp Gln Arg Ala Ile Gln Glu Ile Met Val Asn Ser Ser Gln Ile Leu  
 145 150 155 160  
 Cys Gln Glu Arg Gly Val Trp Gly Ala Gly Ile Ala Asn Phe Leu His  
 165 170 175  
 Arg Asp Lys Ile Asn Glu His Gly Tyr Arg His Ser Gly Val Gly Tyr  
 180 185 190  
 Leu Val Gly Val Gly Thr His Ala Phe Ser Asp Ala Thr Ile Asn Ala  
 195 200 205

Ala Phe Cys Gln Leu Phe Ser Arg Asp Lys Asp Tyr Val Val Ser Lys  
 210 215 220  
 Asn His Gly Thr Ser Tyr Ser Gly Val Val Phe Leu Glu Asp Thr Leu  
 225 230 235 240  
 Glu Phe Arg Ser Pro Gln Gly Phe Tyr Thr Asp Ser Ser Ser Glu Ala  
 245 250 255  
 Cys Cys Asn Gln Val Val Thr Ile Asp Met Gln Leu Ser Tyr Ser His  
 260 265 270  
 Arg Asn Asn Asp Met Lys Thr Lys Tyr Thr Thr Tyr Pro Glu Ala Gln  
 275 280 285  
 Gly Ser Trp Ala Asn Asp Val Phe Gly Leu Glu Phe Gly Ala Thr Thr  
 290 295 300  
 Tyr Tyr Tyr Pro Asn Ser Thr Phe Leu Phe Asp Tyr Tyr Ser Pro Phe  
 305 310 315 320  
 Leu Arg Leu Gln Cys Thr Tyr Ala His Gln Glu Asp Phe Lys Glu Thr  
 325 330 335  
 Gly Gly Glu Val Arg His Phe Thr Ser Gly Asp Leu Phe Asn Leu Ala  
 340 345 350  
 Val Pro Ile Gly Val Lys Phe Glu Arg Phe Ser Asp Cys Lys Arg Gly  
 355 360 365  
 Ser Tyr Glu Leu Thr Leu Ala Tyr Val Pro Asp Val Ile Arg Lys Asp  
 370 375 380  
 Pro Lys Ser Thr Ala Thr Leu Ala Ser Gly Ala Thr Trp Ser Thr His  
 385 390 395 400  
 Gly Asn Asn Leu Ser Arg Gln Gly Leu Gln Leu Arg Leu Gly Asn His  
 405 410 415  
 Cys Leu Ile Asn Pro Gly Ile Glu Val Phe Ser His Gly Ala Ile Glu  
 420 425 430  
 Leu Arg Gly Ser Ser Arg Asn Tyr Asn Ile Asn Leu Gly Gly Lys Tyr  
 435 440 445  
 Arg Phe  
 450

<210> 22  
 <211> 705  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 22  
 Lys Leu Trp Ser Asn Pro Asn Leu Arg Leu Met Lys Arg Cys Phe Leu  
 1 5 10 15  
 Phe Leu Ala Ser Phe Val Leu Met Gly Ser Ser Ala Asp Ala Leu Thr  
 20 25 30  
 His Gln Glu Ala Val Lys Lys Lys Asn Ser Tyr Leu Ser His Phe Lys  
 35 40 45  
 Ser Val Ser Gly Ile Val Thr Ile Glu Asp Gly Val Leu Asn Ile His  
 50 55 60  
 Asn Asn Leu Arg Ile Gln Ala Asn Lys Val Tyr Val Glu Asn Thr Val  
 65 70 75 80  
 Gly Gln Ser Leu Lys Leu Val Ala His Gly Asn Val Met Val Asn Tyr  
 85 90 95  
 Arg Ala Lys Thr Leu Val Cys Asp Tyr Leu Glu Tyr Tyr Glu Asp Thr  
 100 105 110  
 Asp Ser Cys Leu Leu Thr Asn Gly Arg Phe Ala Met Tyr Pro Trp Phe  
 115 120 125  
 Leu Gly Gly Ser Met Ile Thr Leu Thr Pro Glu Thr Ile Val Ile Arg  
 130 135 140  
 Lys Gly Tyr Ile Ser Thr Ser Glu Gly Pro Lys Lys Asp Leu Cys Leu  
 145 150 155 160  
 Ser Gly Asp Tyr Leu Glu Tyr Ser Ser Asp Ser Leu Leu Ser Ile Gly  
 165 170 175

Lys	Thr	Thr	Leu	Arg	Val	Cys	Arg	Ile	Pro	Ile	Leu	Phe	Leu	Pro	Pro		
			180					185					190				
Phe	Ser	Ile	Met	Pro	Met	Glu	Ile	Pro	Lys	Pro	Pro	Ile	Asn	Phe	Arg		
		195					200					205					
Gly	Gly	Thr	Gly	Gly	Phe	Leu	Gly	Ser	Tyr	Leu	Gly	Met	Ser	Tyr	Ser		
	210					215					220						
Pro	Ile	Ser	Arg	Lys	His	Phe	Ser	Ser	Thr	Phe	Phe	Leu	Asp	Ser	Phe		
225					230					235					240		
Phe	Lys	His	Gly	Val	Gly	Met	Gly	Phe	Asn	Leu	His	Cys	Ser	Gln	Lys		
			245						250					255			
Gln	Val	Pro	Glu	Asn	Val	Phe	Asn	Met	Lys	Ser	Tyr	Tyr	Ala	His	Arg		
			260					265					270				
Leu	Ala	Ile	Asp	Met	Ala	Glu	Ala	His	Asp	Arg	Tyr	Arg	Leu	His	Gly		
	275						280					285					
Asp	Phe	Cys	Phe	Thr	His	Lys	His	Val	Asn	Phe	Ser	Gly	Glu	Tyr	His		
290						295					300						
Leu	Ser	Asp	Ser	Trp	Glu	Thr	Val	Ala	Asp	Ile	Phe	Pro	Asn	Asn	Phe		
305				310						315					320		
Met	Leu	Lys	Asn	Thr	Gly	Pro	Thr	Arg	Val	Asp	Cys	Thr	Trp	Asn	Asp		
			325						330					335			
Asn	Tyr	Phe	Glu	Gly	Tyr	Leu	Thr	Ser	Ser	Val	Lys	Val	Asn	Ser	Phe		
		340					345						350				
Gln	Asn	Ala	Asn	Gln	Glu	Leu	Pro	Tyr	Leu	Thr	Leu	Arg	Gln	Tyr	Pro		
	355						360					365					
Ile	Ser	Ile	Tyr	Asn	Thr	Gly	Val	Tyr	Leu	Glu	Asn	Ile	Val	Glu	Cys		
	370					375					380						
Gly	Tyr	Leu	Asn	Phe	Ala	Phe	Ser	Asp	His	Ile	Val	Gly	Glu	Asn	Phe		
385				390						395					400		
Ser	Ser	Leu	Arg	Leu	Ala	Ala	Arg	Pro	Lys	Leu	His	Lys	Thr	Val	Pro		
			405						410					415			
Leu	Pro	Ile	Gly	Thr	Leu	Ser	Ser	Thr	Leu	Gly	Ser	Ser	Leu	Ile	Tyr		
		420						425					430				
Tyr	Ser	Asp	Val	Pro	Glu	Ile	Ser	Ser	Arg	His	Ser	Gln	Leu	Ser	Ala		
	435						440					445					
Lys	Leu	Gln	Leu	Asp	Tyr	Arg	Phe	Leu	Leu	His	Lys	Ser	Tyr	Ile	Gln		
	450					455					460						
Arg	Arg	His	Ile	Ile	Glu	Pro	Phe	Val	Thr	Phe	Ile	Thr	Glu	Thr	Arg		
465					470					475					480		
Pro	Leu	Ala	Lys	Asn	Glu	Asp	His	Tyr	Ile	Phe	Ser	Ile	Gln	Asp	Ala		
			485						490					495			
Phe	His	Ser	Leu	Asn	Leu	Leu	Lys	Ala	Gly	Ile	Asp	Thr	Ser	Val	Leu		
		500					505						510				
Ser	Lys	Thr	Asn	Pro	Arg	Phe	Pro	Arg	Ile	His	Ala	Lys	Leu	Trp	Thr		
	515						520					525					
Thr	His	Ile	Leu	Ser	Asn	Thr	Glu	Ser	Lys	Pro	Thr	Phe	Pro	Lys	Thr		
	530					535						540					
Ala	Cys	Glu	Leu	Ser	Leu	Pro	Phe	Gly	Lys	Lys	Asn	Thr	Val	Ser	Leu		
545					550					555					560		
Asp	Ala	Glu	Trp	Ile	Trp	Lys	Lys	His	Cys	Trp	Asp	His	Met	Asn	Ile		
			565						570					575			
Arg	Trp	Glu	Trp	Ile	Gly	Asn	Asp	Asn	Val	Ala	Met	Thr	Leu	Glu	Ser		
		580					585						590				
Leu	His	Arg	Ser	Lys	Tyr	Ser	Leu	Ile	Lys	Cys	Asp	Arg	Glu	Asn	Phe		
	595						600					605					
Ile	Leu	Asp	Val	Ser	Arg	Pro	Ile	Asp	Gln	Leu	Leu	Asp	Ser	Pro	Leu		
	610					615					620						
Ser	Asp	His	Arg	Asn	Leu	Ile	Leu	Gly	Lys	Leu	Phe	Val	Arg	Pro	His		
625				630						635					640		
Pro	Cys	Trp	Asn	Tyr	Arg	Leu	Ser	Leu	Arg	Tyr	Gly	Trp	His	Arg	Gln		
			645						650					655			

Asp Thr Pro Asn Tyr Leu Glu Tyr Gln Met Ile Leu Gly Thr Lys Ile  
                   660                  665                  670  
 Phe Glu His Trp Gln Leu Tyr Gly Val Tyr Glu Arg Arg Glu Ala Asp  
                   675                  680                  685  
 Ser Arg Phe Phe Phe Phe Leu Lys Leu Asp Lys Pro Lys Lys Pro Pro  
           690                  695                  700  
 Phe  
 705

<210> 23  
 <211> 588  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 23  
 Cys Ser Arg Ser Pro Tyr Pro Asn Ile Glu Ile Leu Ala Arg Gly Val  
   1                  5                  10                  15  
 Glu His Arg Ser Met Gly Leu Phe His Leu Thr Leu Phe Gly Leu Leu  
           20                  25                  30  
 Leu Cys Ser Leu Pro Ile Ser Leu Val Ala Lys Phe Pro Glu Ser Val  
           35                  40                  45  
 Gly His Lys Ile Leu Tyr Ile Ser Thr Gln Ser Thr Gln Gln Ala Leu  
           50                  55                  60  
 Ala Thr Tyr Leu Glu Ala Leu Asp Ala Tyr Gly Asp His Asp Phe Phe  
   65                  70                  75                  80  
 Val Leu Arg Lys Ile Gly Glu Asp Tyr Leu Lys Gln Ser Ile His Ser  
           85                  90                  95  
 Ser Asp Pro Gln Thr Arg Lys Ser Thr Ile Ile Gly Ala Gly Leu Ala  
           100                  105                  110  
 Gly Ser Ser Glu Ala Leu Asp Val Leu Ser Gln Ala Met Glu Thr Ala  
           115                  120                  125  
 Asp Pro Leu Gln Gln Leu Leu Val Leu Ser Ala Val Ser Gly His Leu  
   130                  135                  140  
 Gly Lys Thr Ser Asp Asp Leu Leu Phe Lys Ala Leu Ala Ser Pro Tyr  
  145                  150                  155                  160  
 Pro Val Ile Arg Leu Glu Ala Ala Tyr Arg Leu Ala Asn Leu Lys Asn  
           165                  170                  175  
 Thr Lys Val Ile Asp His Leu His Ser Phe Ile His Lys Leu Pro Glu  
           180                  185                  190  
 Glu Ile Gln Cys Leu Ser Ala Ala Ile Phe Leu Arg Leu Glu Thr Glu  
           195                  200                  205  
 Glu Ser Asp Ala Tyr Ile Arg Asp Leu Leu Ala Ala Lys Lys Ser Ala  
   210                  215                  220  
 Ile Arg Ser Ala Thr Ala Leu Gln Ile Gly Glu Tyr Gln Gln Lys Arg  
  225                  230                  235                  240  
 Phe Leu Pro Thr Leu Arg Asn Leu Leu Thr Ser Ala Ser Pro Gln Asp  
           245                  250                  255  
 Gln Glu Ala Ile Leu Tyr Ala Leu Gly Lys Leu Lys Asp Gly Gln Ser  
           260                  265                  270  
 Tyr Tyr Asn Ile Lys Lys Gln Leu Gln Lys Pro Asp Val Asp Val Thr  
           275                  280                  285  
 Leu Ala Ala Ala Gln Ala Leu Ile Ala Leu Gly Lys Glu Glu Asp Ala  
           290                  295                  300  
 Leu Pro Val Ile Lys Lys Gln Ala Leu Glu Glu Arg Pro Arg Ala Leu  
  305                  310                  315                  320  
 Tyr Ala Leu Arg His Leu Pro Ser Glu Ile Gly Ile Pro Ile Ala Leu  
           325                  330                  335  
 Pro Ile Phe Leu Lys Thr Lys Asn Ser Glu Ala Lys Leu Asn Val Ala  
           340                  345                  350  
 Leu Ala Leu Leu Glu Leu Gly Cys Asp Thr Pro Lys Leu Leu Glu Tyr  
           355                  360                  365

Ile Thr Glu Arg Leu Val Gln Pro His Tyr Asn Glu Thr Leu Ala Leu  
 370 375 380  
 Ser Phe Ser Lys Gly Arg Thr Leu Gln Asn Trp Lys Arg Val Asn Ile  
 385 390 395 400  
 Ile Val Pro Gln Asp Pro Gln Glu Arg Glu Arg Leu Leu Ser Thr Thr  
 405 410 415  
 Arg Gly Leu Glu Glu Gln Ile Leu Thr Phe Leu Phe Arg Leu Pro Lys  
 420 425 430  
 Glu Ala Tyr Leu Pro Cys Ile Tyr Lys Leu Leu Ala Ser Gln Lys Thr  
 435 440 445  
 Gln Leu Ala Thr Thr Ala Ile Ser Phe Leu Ser His Thr Ser His Gln  
 450 455 460  
 Glu Ala Leu Asp Leu Leu Phe Gln Ala Ala Lys Leu Pro Gly Glu Pro  
 465 470 475 480  
 Ile Ile Arg Ala Tyr Ala Asp Leu Ala Ile Tyr Asn Leu Thr Lys Asp  
 485 490 495  
 Pro Glu Lys Lys Arg Ser Leu His Asp Tyr Ala Lys Lys Leu Ile Gln  
 500 505 510  
 Glu Thr Leu Leu Phe Val Asp Thr Glu Asn Gln Arg Pro His Pro Ser  
 515 520 525  
 Met Pro Tyr Leu Arg Tyr Gln Val Thr Pro Glu Ser Arg Thr Lys Leu  
 530 535 540  
 Met Leu Asp Ile Leu Glu Thr Leu Ala Thr Ser Lys Ser Ser Glu Asp  
 545 550 555 560  
 Ile Arg Leu Leu Ile Gln Leu Met Thr Glu Gly Asp Ala Lys Asn Phe  
 565 570 575  
 Pro Val Leu Ala Gly Leu Leu Ile Lys Ile Val Glu  
 580 585

<210> 24

<211> 216

<212> PRT

<213> Chlamydia pneumoniae

<400> 24

Thr Ile Leu Gln Val Ile Ser Asn Cys Cys Asn Val Ser Asn Thr Arg  
 1 5 10 15  
 Ser Phe Tyr Ser Met Ser Leu Pro Leu Val Leu Gly Ser Ser Ser Pro  
 20 25 30  
 Arg Arg Lys Phe Ile Leu Glu Lys Phe Arg Val Pro Phe Thr Val Ile  
 35 40 45  
 Pro Ser Asn Phe Asp Glu Ser Lys Val Ser Tyr Ser Gly Asp Pro Ile  
 50 55 60  
 Ala Tyr Thr Gln Glu Leu Ala Ala Gln Lys Ala Tyr Ala Val Ser Glu  
 65 70 75 80  
 Leu His Ser Pro Cys Asp Cys Ile Ile Leu Thr Gly Asp Thr Ile Val  
 85 90 95  
 Ser Tyr Asp Gly Arg Ile Phe Thr Lys Pro Gln Asp Lys Ala Asp Ala  
 100 105 110  
 Ile Gln Met Leu Lys Thr Leu Arg Asn Gln Thr His Asp Val Val Thr  
 115 120 125  
 Ser Ile Ala Val Leu His Lys Gly Lys Leu Leu Thr Gly Ser Glu Thr  
 130 135 140  
 Ser Gln Ile Ser Leu Thr Met Ile Pro Asp His Arg Ile Glu Ser Tyr  
 145 150 155 160  
 Ile Asp Thr Val Gly Thr Leu Asn Asn Cys Gly Ala Tyr Asp Val Cys  
 165 170 175  
 His Gly Gly Leu Ile Leu Lys Lys Val His Gly Cys Val Tyr Asn Val  
 180 185 190  
 Gln Gly Leu Pro Ile Gln Thr Leu Lys Tyr Leu Leu Glu Glu Leu Asn  
 195 200 205

Ile Asp Leu Trp Asp Tyr Ser Ile  
 210 215

<210> 25  
 <211> 548  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 25  
 Glu Asn Arg Ala Lys Leu Leu Tyr Ser Lys Gln His Phe Val Met Leu  
 1 5 10 15  
 Ser Ala Met Ser Ile Val Leu Asp Lys Ile Gly Lys Ser Leu Gly Thr  
 20 25 30  
 Arg Ile Leu Phe Asp Asp Val Ser Val Val Phe Asn Pro Gly Asn Cys  
 35 40 45  
 Tyr Gly Leu Thr Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu Leu Lys  
 50 55 60  
 Ile Ile Met Gly Met Ile Glu Pro Thr Arg Gly Ser Ile Ser Leu Pro  
 65 70 75 80  
 Lys Lys Val Gly Ile Leu Arg Gln Asn Ile Asp Ser Phe His Asp Thr  
 85 90 95  
 Thr Val Leu Asp Cys Val Ile Met Gly Asn Thr Arg Leu Trp Glu Ala  
 100 105 110  
 Leu Gln Arg Arg Asp Asn Leu Tyr Leu Gln Glu Phe Thr Asp Ala Ile  
 115 120 125  
 Gly Met Glu Leu Gly Glu Ile Glu Glu Ile Ile Gly Glu Glu Asn Gly  
 130 135 140  
 Tyr Arg Ala Asp Ser Glu Ala Glu Glu Leu Leu Thr Gly Ile Gly Ile  
 145 150 155 160  
 Pro Asn Glu Met Phe Asp Lys Lys Met Ala Met Ile Pro Ile Asp Leu  
 165 170 175  
 Gln Phe Arg Val Leu Leu Cys Gln Ala Leu Phe Gly His Pro Glu Ala  
 180 185 190  
 Leu Leu Leu Asp Glu Pro Thr Asn His Leu Asp Leu Tyr Ser Ile Asn  
 195 200 205  
 Trp Leu Gly Asn Phe Leu Lys Asp Tyr Glu Gly Thr Val Ile Val Val  
 210 215 220  
 Ser His Asp Arg His Phe Leu Asn Thr Ile Thr Thr His Ile Ala Asp  
 225 230 235 240  
 Ile Asp Tyr Asp Thr Ile Ile Ile Tyr Pro Gly Asn Tyr Asp Asp Met  
 245 250 255  
 Val Glu Met Lys Thr Ala Ser Arg Glu Gln Glu Lys Ala Asp Ile Lys  
 260 265 270  
 Ser Lys Glu Lys Lys Ile Ser Gln Leu Lys Glu Phe Val Ala Lys Phe  
 275 280 285  
 Gly Ala Gly Ser Arg Ala Ser Gln Val Gln Ser Arg Leu Arg Glu Ile  
 290 295 300  
 Lys Lys Leu Gln Pro Gln Glu Leu Lys Lys Ser Asn Ile Gln Arg Pro  
 305 310 315 320  
 Tyr Ile Arg Phe Pro Leu Ser Asp Lys Ser Ser Gly Lys Val Val Leu  
 325 330 335  
 Ser Leu Glu Ala Ile Thr Lys Asp Tyr Gly Asp His Gln Val Ile His  
 340 345 350  
 Pro Phe Ser Leu Glu Ile Tyr Gln Gly Asp Lys Leu Gly Ile Ile Gly  
 355 360 365  
 Asn Asn Gly Leu Gly Lys Thr Thr Leu Met Lys Leu Leu Ala Gly Val  
 370 375 380  
 Glu Ala Pro Ser Ser Gly Ser Ile Lys Leu Gly His Gln Ala Ile Cys  
 385 390 395 400  
 Ser Tyr Phe Pro Gln Asn His Ser Asp Val Leu Ala Asp Cys Gly Gln  
 405 410 415



Glu Thr Leu Phe Glu Trp Leu Arg Asn Arg Lys Thr Gly Ile Asn Asp  
                     420                    425                    430  
 Gln Glu Ile Arg Ser Val Leu Gly Lys Met Leu Phe Gly Gly Asp Asp  
                     435                    440                    445  
 Ala Phe Lys Gln Ile Gln Ala Leu Ser Gly Gly Glu Thr Ala Arg Leu  
                     450                    455                    460  
 Leu Met Ala Gly Met Met Leu Glu Asn His Asn Val Leu Ile Leu Asp  
 465                    470                    475                    480  
 Glu Ala Asn Asn His Leu Asp Leu Glu Ser Val Ser Ala Leu Ser Trp  
                     485                    490                    495  
 Ala Ile Asn Asp Tyr Lys Gly Thr Ala Ile Phe Val Ser His Asp Arg  
                     500                    505                    510  
 Gly Leu Ile Gln Asp Cys Ala Thr Lys Leu Leu Ile Phe Asp Lys Asp  
                     515                    520                    525  
 Lys Ile Thr Phe Phe Asp Gly Thr Met Val Asp Tyr Thr Ala Gly His  
                     530                    535                    540  
 Lys Gln Leu Leu  
 545

<210> 26  
 <211> 315  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 26  
 Arg Glu Val Met Ile Ala Ser Ile Tyr Ser Phe Leu Asp Tyr Leu Lys  
   1                    5                    10                    15  
 Met Val Lys Ser Ala Ser Pro His Thr Leu Arg Asn Tyr Cys Leu Asp  
                     20                    25                    30  
 Leu Asn Gly Leu Lys Ile Phe Leu Glu Glu Arg Gly Asn Leu Ala Pro  
                     35                    40                    45  
 Ser Ser Pro Leu Gln Leu Ala Thr Glu Lys Arg Lys Val Ser Glu Leu  
                     50                    55                    60  
 Pro Phe Ser Leu Phe Thr Lys Glu His Val Arg Met Tyr Ile Ala Lys  
 65                    70                    75                    80  
 Leu Ile Glu Asn Gly Lys Ala Lys Arg Thr Ile Lys Arg Cys Leu Ser  
                     85                    90                    95  
 Ser Ile Lys Ser Phe Ala His Tyr Cys Val Ile Gln Lys Ile Leu Leu  
                     100                    105                    110  
 Glu Asn Pro Ala Glu Thr Ile His Gly Pro Arg Leu Pro Lys Glu Leu  
                     115                    120                    125  
 Pro Ser Pro Met Thr Tyr Ala Gln Val Glu Val Leu Met Ala Thr Pro  
                     130                    135                    140  
 Asp Ile Ser Lys Tyr His Gly Leu Arg Asp Arg Cys Leu Met Glu Leu  
 145                    150                    155                    160  
 Phe Tyr Ser Ser Gly Leu Arg Ile Ser Glu Ile Val Ala Val Asn Lys  
                     165                    170                    175  
 Gln Asp Phe Asp Leu Ser Thr His Leu Ile Arg Ile Arg Gly Lys Gly  
                     180                    185                    190  
 Lys Lys Glu Arg Ile Ile Pro Val Thr Ser Asn Ala Ile Gln Trp Ile  
                     195                    200                    205  
 Gln Ile Tyr Leu Asn His Pro Asp Arg Lys Arg Leu Glu Lys Asp Pro  
                     210                    215                    220  
 Gln Ala Ile Phe Leu Asn Arg Phe Gly Arg Arg Ile Ser Thr Arg Ser  
 225                    230                    235                    240  
 Ile Asp Arg Ser Phe Gln Glu Tyr Leu Arg Arg Ser Gly Leu Ser Gly  
                     245                    250                    255  
 His Ile Thr Pro His Thr Ile Arg His Thr Ile Ala Thr His Trp Leu  
                     260                    265                    270  
 Glu Ser Gly Met Asp Leu Lys Thr Ile Gln Ala Leu Leu Gly His Ser  
                     275                    280                    285

Ser Leu Glu Thr Thr Thr Val Tyr Thr Gln Val Ser Val Lys Leu Lys  
 290 295 300  
 Lys Gln Thr His Gln Glu Ala His Pro His Ala  
 305 310 315

<210> 27  
 <211> 309  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 27  
 Ile Leu Met Ser Ser Arg Glu Leu Ile Ile Leu Gly Cys Ser Ser Gln  
 1 5 10 15  
 Gln Pro Thr Arg Thr Arg Asn Gln Gly Ala Tyr Leu Phe Arg Trp Asn  
 20 25 30  
 Gly Glu Gly Leu Leu Phe Asp Pro Gly Glu Gly Thr Gln Arg Gln Phe  
 35 40 45  
 Ile Phe Ala Asn Ile Ala Pro Thr Thr Val Asn Arg Ile Phe Val Ser  
 50 55 60  
 His Phe His Gly Asp His Cys Leu Gly Leu Gly Ser Met Leu Met Arg  
 65 70 75 80  
 Leu Asn Leu Asp Lys Val Ser His Pro Ile His Cys Tyr Tyr Pro Ala  
 85 90 95  
 Ser Gly Lys Lys Tyr Phe Asp Arg Leu Arg Tyr Gly Thr Ile Tyr His  
 100 105 110  
 Glu Thr Ile Gln Val Val Glu His Pro Ile Ser Glu Glu Gly Ile Val  
 115 120 125  
 Glu Asp Phe Gly Ser Phe Arg Ile Glu Ala Gln Arg Leu Gln His Gln  
 130 135 140  
 Val Asp Thr Leu Gly Trp Arg Ile Thr Glu Pro Asp Thr Ile Lys Phe  
 145 150 155 160  
 Leu Pro Lys Glu Leu Glu Ser Arg Gly Ile Arg Gly Leu Ile Ile Gln  
 165 170 175  
 Asp Leu Ile Arg Asp Gln Glu Ile Ser Ile Gly Gly Ser Thr Val Tyr  
 180 185 190  
 Leu Ser Asp Val Ser Tyr Val Arg Lys Gly Asp Ser Ile Ala Ile Ile  
 195 200 205  
 Ala Asp Thr Leu Pro Cys Gln Ala Ala Ile Asp Leu Ala Lys Asn Ser  
 210 215 220  
 Cys Met Met Leu Cys Glu Ser Thr Tyr Leu Glu Gln His Arg His Leu  
 225 230 235 240  
 Ala Glu Ser His Phe His Met Thr Ala Lys Gln Ala Ala Thr Leu Ala  
 245 250 255  
 Lys Arg Ala Ala Thr Gln Lys Leu Ile Leu Thr His Phe Ser Ala Arg  
 260 265 270  
 Tyr Leu Asn Leu Asp Asp Phe Tyr Lys Glu Ala Ser Ala Val Phe Pro  
 275 280 285  
 Asn Val Ser Val Ala Gln Glu Tyr Arg Ser Tyr Pro Phe Pro Lys Asn  
 290 295 300  
 Pro Leu Leu Asn Lys  
 305

<210> 28  
 <211> 292  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 28  
 Ser Asn Phe Ala Met Ser His Leu Ile Pro Ser Leu Arg Asn Ser Val  
 1 5 10 15

Thr Ser Tyr Phe His Lys Pro Gln Pro Ile Lys Gln Ala Ala Pro Ser  
 20 25 30  
 Lys Ser Ile Arg Asp Ile Cys Asn Ile Ala Tyr Leu Ile Ile Ile Cys  
 35 40 45  
 Val Leu Val Val Val Val Leu Val Gly Ala Met Leu Cys Met Phe Ile  
 50 55 60  
 Pro Ser Val Gly Ile Pro Leu Cys Leu Ser Ser Leu Ala Leu Leu Val  
 65 70 75 80  
 Leu Leu Ser Ile Phe Asn Pro Cys Leu Ile Asn Trp Ile Ser Thr Lys  
 85 90 95  
 Lys Thr Lys Glu Ile Ala Pro Lys Asp Ala Ser Glu Ser Gln Pro Thr  
 100 105 110  
 Lys Ser Ala Ser Arg Lys Gly Ser Pro Gln Leu Ser Pro His His Asp  
 115 120 125  
 His Glu Pro Lys Asn Phe Ile Arg Thr Gln Leu Glu Lys Gly Val Asn  
 130 135 140  
 Tyr Val Thr Asn Lys Phe Lys Ser Gly Glu Glu Ser Pro His Ile Ser  
 145 150 155 160  
 Asp Glu His His Ser Pro Arg Gln Ser Lys Arg Ser Ser Glu Ile Glu  
 165 170 175  
 Ser Ser Asp Glu Ser Ser Pro Glu Leu His Arg Lys Ala Lys Gly Lys  
 180 185 190  
 Ala Pro His Thr Ala Thr Thr Lys Glu Ser Lys Thr Ser Thr Thr Glu  
 195 200 205  
 Ser Ser Lys Lys Lys Lys Lys Thr Lys His Ser Leu His Arg Thr Thr  
 210 215 220  
 Ser Ser Ile His Lys Arg Ser Ala Pro Lys Pro Met Val Pro Ser Lys  
 225 230 235 240  
 Lys Arg Lys Pro Val Leu Leu Lys Lys Thr Val Pro Leu Pro Ile Glu  
 245 250 255  
 Asp Leu Glu His Gln Ser Ser Gly Asn Glu Ser Ser Asp Ser Ser Ser  
 260 265 270  
 Pro Pro Pro Val Gln Arg Lys Ala Ile Leu Pro Trp Phe Cys Lys Gln  
 275 280 285  
 Pro Thr Asp Pro  
 290

<210> 29  
 <211> 825  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 29  
 Pro Ser Ile Arg Thr Ile Val Asp Ser Thr Thr Asn Ser Asp Ser Pro  
 1 5 10 15  
 Ile Leu Asp Pro Asn Pro Glu Asp Val Glu Lys Leu Leu Asp Glu Ser  
 20 25 30  
 Glu Glu Glu Ser Glu Asp Gln Ser Thr Glu Arg Leu Leu Pro Ser Glu  
 35 40 45  
 Leu Phe Ile Leu Pro Leu Asn Lys Arg Pro Phe Phe Pro Gly Met Ala  
 50 55 60  
 Ala Pro Ile Leu Ile Glu Ser Gly Pro Tyr Tyr Glu Val Leu Lys Val  
 65 70 75 80  
 Leu Ala Lys Ser Ser Gln Lys Tyr Ile Gly Leu Val Leu Thr Lys Lys  
 85 90 95  
 Glu Asn Ala Asp Ile Leu Lys Val Ser Phe Asn Gln Leu His Lys Thr  
 100 105 110  
 Gly Val Ala Arg Ile Leu Arg Ile Met Pro Ile Glu Gly Gly Ser  
 115 120 125  
 Ala Gln Val Leu Leu Ser Ile Glu Glu Arg Ile Arg Ile Ile Glu Pro  
 130 135 140

Ile Lys Asp Lys Tyr Leu Lys Ala Arg Val Ser Tyr His Ala Asp Asn  
 145 150 155 160  
 Lys Glu Leu Thr Glu Glu Leu Lys Ala Tyr Ser Ile Ser Ile Val Ser  
 165 170 175  
 Val Ile Lys Asp Leu Leu Lys Leu Asn Pro Leu Phe Lys Glu Glu Leu  
 180 185 190  
 Gln Ile Phe Leu Gly His Ser Asp Phe Thr Glu Pro Gly Lys Leu Ala  
 195 200 205  
 Asp Phe Ser Val Ala Leu Thr Thr Ala Thr Arg Glu Glu Leu Gln Glu  
 210 215 220  
 Val Leu Glu Thr Thr Asn Met His Asp Arg Ile Asp Lys Ala Leu Ile  
 225 230 235 240  
 Leu Leu Lys Lys Glu Leu Asp Leu Ser Arg Leu Gln Ser Ser Ile Asn  
 245 250 255  
 Gln Lys Ile Glu Ala Thr Ile Thr Lys Ser Gln Lys Glu Phe Phe Leu  
 260 265 270  
 Lys Glu Gln Leu Lys Thr Ile Lys Lys Glu Leu Gly Leu Glu Lys Glu  
 275 280 285  
 Asp Arg Ala Ile Asp Ile Glu Lys Phe Ser Glu Arg Leu Arg Lys Arg  
 290 295 300  
 His Val Pro Asp Tyr Ala Met Glu Val Ile Gln Asp Glu Ile Glu Lys  
 305 310 315 320  
 Leu Gln Thr Leu Glu Thr Ser Ser Ala Glu Tyr Thr Val Cys Arg Asn  
 325 330 335  
 Tyr Leu Asp Trp Leu Thr Ile Ile Pro Trp Gly Ile Gln Ser Lys Glu  
 340 345 350  
 Tyr His Asp Leu Lys Lys Ala Glu Ile Val Leu Asn Lys Asp His Tyr  
 355 360 365  
 Gly Leu Asp Glu Ile Lys Gln Arg Ile Leu Glu Leu Ile Ser Val Gly  
 370 375 380  
 Lys Leu Ser Lys Gly Leu Lys Gly Ser Ile Ile Cys Leu Val Gly Pro  
 385 390 395 400  
 Pro Gly Val Gly Lys Thr Ser Ile Gly Arg Ser Ile Ala Lys Val Leu  
 405 410 415  
 His Arg Lys Phe Phe Arg Phe Ser Val Gly Gly Met Arg Asp Glu Ala  
 420 425 430  
 Glu Ile Lys Gly His Arg Arg Thr Tyr Ile Gly Ala Met Pro Gly Lys  
 435 440 445  
 Met Val Gln Ala Leu Lys Gln Ser Gln Ala Met Asn Pro Val Ile Met  
 450 455 460  
 Ile Asp Glu Val Asp Lys Ile Gly Ala Ser Tyr His Gly Asp Pro Ala  
 465 470 475 480  
 Ser Ala Leu Leu Glu Val Leu Asp Pro Glu Gln Asn Lys Asp Phe Leu  
 485 490 495  
 Asp His Tyr Leu Asp Val Arg Val Asp Leu Ser Asn Val Leu Phe Ile  
 500 505 510  
 Leu Thr Ala Asn Val Leu Asp Thr Ile Pro Asp Pro Leu Leu Asp Arg  
 515 520 525  
 Met Glu Ile Leu Arg Leu Ser Gly Tyr Ile Leu Glu Glu Lys Leu Gln  
 530 535 540  
 Ile Ala Lys Lys Tyr Leu Val Pro Lys Ala Arg Lys Glu Ile Gly Leu  
 545 550 555 560  
 Thr Ala Ser Glu Val Asn Phe Gln Pro Glu Ala Leu Lys Tyr Met Ile  
 565 570 575  
 Asn Asn Tyr Ala Arg Glu Ala Gly Val Arg Thr Leu Asn Gly Asn Ile  
 580 585 590  
 Lys Lys Val Leu Arg Lys Val Ala Leu Lys Ile Val Gln Asn Gln Glu  
 595 600 605  
 Lys Pro Lys Ser Lys Lys Ile Thr Phe Lys Ile Ser Ser Lys Asn Leu  
 610 615 620

Gln Thr Tyr Leu Gly Lys Pro Ile Phe Ser Ser Asp Arg Phe Tyr Glu  
 625 630 635 640  
 Ser Thr Pro Val Gly Val Ala Thr Gly Leu Ala Trp Thr Ser Leu Gly  
 645 650 655  
 Gly Ala Thr Leu Tyr Ile Glu Ser Val Gln Val Ser Ser Leu Lys Thr  
 660 665 670  
 Asp Met His Leu Thr Gly Gln Ala Gly Glu Val Met Lys Glu Ser Ser  
 675 680 685  
 Gln Ile Ala Trp Thr Tyr Leu His Ser Ala Leu His Arg Tyr Ala Pro  
 690 695 700  
 Gly Tyr Thr Phe Phe Pro Lys Ser Gln Val His Ile His Ile Pro Glu  
 705 710 715 720  
 Gly Ala Thr Pro Lys Asp Gly Pro Ser Ala Gly Ile Thr Met Val Thr  
 725 730 735  
 Ser Leu Leu Ser Leu Leu Leu Glu Thr Pro Val Val Asn Asn Leu Gly  
 740 745 750  
 Met Thr Gly Glu Ile Thr Leu Thr Gly Arg Val Leu Gly Val Gly Gly  
 755 760 765  
 Ile Arg Glu Lys Leu Ile Ala Ala Arg Arg Ser Arg Leu Asn Ile Leu  
 770 775 780  
 Ile Phe Pro Glu Asp Asn Arg Arg Asp Tyr Glu Glu Leu Pro Ala Tyr  
 785 790 795 800  
 Leu Lys Thr Gly Leu Lys Ile His Phe Val Ser His Tyr Asp Asp Val  
 805 810 815  
 Leu Lys Val Ala Phe Pro Lys Leu Lys  
 820 825

<210> 30  
 <211> 262  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 30  
 Arg Met Phe Leu Gln Phe Phe His Pro Ile Val Phe Ser Asp Gln Ser  
 1 5 10 15  
 Leu Ser Phe Leu Pro Tyr Leu Gly Lys Ser Ser Gly Ile Ile Glu Lys  
 20 25 30  
 Cys Ser Asn Ile Val Glu His Tyr Leu His Leu Gly Gly Asp Thr Ser  
 35 40 45  
 Val Ile Ile Thr Gly Val Ser Gly Ala Thr Phe Leu Ser Val Asp His  
 50 55 60  
 Ala Leu Pro Ile Ser Lys Ser Glu Lys Ile Ile Lys Ile Leu Ser Tyr  
 65 70 75 80  
 Ile Leu Ile Leu Pro Leu Ile Leu Ala Leu Phe Ile Lys Ile Val Leu  
 85 90 95  
 Arg Ile Ile Leu Phe Phe Lys Tyr Arg Gly Leu Ile Leu Asp Val Lys  
 100 105 110  
 Lys Glu Asp Leu Lys Lys Thr Leu Thr Pro Asp Gln Glu Asn Leu Ser  
 115 120 125  
 Leu Pro Leu Pro Ser Pro Thr Thr Leu Lys Lys Ile His Ala Leu His  
 130 135 140  
 Ile Leu Val Arg Ser Gly Lys Thr Tyr Asn Glu Leu Ile Gln Glu Gly  
 145 150 155 160  
 Phe Ser Phe Thr Lys Ile Thr Asp Leu Gly Gln Ala Pro Ser Pro Lys  
 165 170 175  
 Gln Asp Ile Gly Phe Ser Tyr Asn Ser Leu Leu Pro Asn Phe Tyr Phe  
 180 185 190  
 His Ser Leu Val Ser Val Pro Asn Ile Ser Gly Glu Glu Arg Ala Leu  
 195 200 205  
 Asn Tyr His Lys Glu Gln Gln Glu Glu Met Ala Val Lys Leu Lys Thr  
 210 215 220

Met Gln Ala Cys Ser Phe Val Phe Arg Ser Leu His Leu Pro Ser Met  
 225 230 235 240  
 Gln Thr Lys Asp Lys Lys Ala Gly Phe Gly Leu Leu Thr Phe Phe Pro  
 245 250 255  
 Trp Lys Ile Tyr Pro Leu  
 260

<210> 31  
 <211> 150  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 31  
 Ser Asn Lys Asn Glu Arg Asn Glu Asn Ile Tyr Cys Phe Asn Leu Phe  
 1 5 10 15  
 Arg Tyr Ile Arg Phe Phe Ala Ala Leu Asn Ile Arg Met Asn Asp Gly  
 20 25 30  
 Leu Arg Phe Cys Tyr Ser Tyr Ile Leu Leu Arg Pro Met Leu Leu Asp  
 35 40 45  
 Ser Ser Leu Leu Arg Lys Gly Gly Gln Glu Leu Leu Lys Lys Phe Gln  
 50 55 60  
 Ile Lys Leu Arg Thr Thr Ser Ile Lys Ser Ser Leu Ile Ser Leu Arg  
 65 70 75 80  
 Gln Gln Leu Gly Lys Arg Glu Ala Thr Gln Ser Asp Ile Leu Tyr Gly  
 85 90 95  
 Thr Ser Arg Phe Gln Tyr Leu Asn Ser Phe Glu Ile Glu Asp Pro Arg  
 100 105 110  
 Ile Pro Pro Thr Met Ala Ala Gln Leu Gln Glu Ile Thr Trp Ser Arg  
 115 120 125  
 Ser Val Met Glu Leu Lys Ile Lys Phe Tyr Val Tyr Leu Asn Ser Glu  
 130 135 140  
 Arg Asn Lys Thr Lys Pro  
 145 150

<210> 32  
 <211> 230  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 32  
 Leu Lys Gly Val Cys Trp Tyr Ser Leu Phe Phe Tyr Ile Lys Asn Arg  
 1 5 10 15  
 Arg Met Tyr Phe Tyr Lys Tyr Val Ile Ile Asp Thr Ser Gly Tyr Tyr  
 20 25 30  
 Pro Phe Leu Ala Cys Val Asp Asn Gln Gln Val Leu Glu His Trp Ser  
 35 40 45  
 Leu Pro Val Gly Pro Asp Leu Gly Ile Val Leu Glu Phe Leu Phe Lys  
 50 55 60  
 Ser Lys Asn Leu Ser Phe Gln Gly Val Ala Val Ala Leu Gly Pro Gly  
 65 70 75 80  
 Asn Phe Ser Ala Thr Arg Ile Gly Ile Ser Phe Ala Gln Gly Leu Ala  
 85 90 95  
 Met Ala Lys Asn Val Pro Leu Leu Gly Tyr Ser Ser Leu Glu Gly Tyr  
 100 105 110  
 Leu Leu Ser Lys Asp Glu Lys Lys Ala Leu Met Leu Pro Leu Gly Lys  
 115 120 125  
 Arg Gly Gly Val Leu Thr Leu Ser Ser Glu Ile Pro Glu Glu Gly Leu  
 130 135 140  
 Asn Glu Lys Arg Arg Gly Val Gly Pro Gly Ala Leu Leu Ser Tyr Glu  
 145 150 155 160

Glu Ala Ser Asp Tyr Cys Val Ala His Gly Tyr Tyr His Val Ile Ser  
                                   165                                  170                                  175  
 Pro Asn Pro Gln Leu Phe Ala Ser Ser Phe Ser Asp Lys Ile Thr Val  
                                   180                                  185                                  190  
 Glu Glu Val Ala Pro Ser Val Glu Gln Ile Arg Arg His Val Ile Ser  
                                   195                                  200                                  205  
 Gln Phe Met Phe Val Glu Tyr Asp Lys Gln Leu Ser Pro Asp Tyr Arg  
                                   210                                  215                                  220  
 Ser Tyr Ser Cys Ile Phe  
 225                                  230

<210> 33  
 <211> 59  
 <212> PRT  
 <213> Chlamydia pneumoniae

                                  <400> 33  
 Cys Met Pro Ser Val Lys Val Arg Val Gly Glu Pro Val Asp Arg Ala  
   1                                  5                                  10                                  15  
 Leu Arg Ile Leu Lys Lys Lys Ile Asp Lys Glu Gly Ile Leu Lys Ala  
                                   20                                  25                                  30  
 Ala Lys Ser His Arg Phe Tyr Asp Lys Pro Ser Val Lys Lys Arg Ala  
                                   35                                  40                                  45  
 Lys Ser Lys Ala Ala Ala Lys Tyr Arg Ser Arg  
   50                                  55

<210> 34  
 <211> 406  
 <212> PRT  
 <213> Chlamydia pneumoniae

                                  <400> 34  
 Ser Leu Ile Gly Asn Val Val Phe Val Gly Ser Val Ser Gly Met Asp  
   1                                  5                                  10                                  15  
 Tyr Tyr Ser Ile Leu Gly Ile Ser Lys Thr Ala Ser Ala Glu Glu Ile  
                                   20                                  25                                  30  
 Lys Lys Ala Tyr Arg Lys Leu Ala Val Lys Tyr His Pro Asp Lys Asn  
                                   35                                  40                                  45  
 Pro Gly Asp Ala Ala Ala Glu Lys Arg Phe Lys Glu Val Ser Glu Ala  
   50                                  55                                  60  
 Tyr Glu Val Leu Ser Asp Pro Gln Lys Arg Asp Ser Tyr Asp Arg Phe  
   65                                  70                                  75                                  80  
 Gly Lys Asp Gly Pro Phe Ala Gly Ala Gly Gly Phe Gly Gly Ala Gly  
                                   85                                  90                                  95  
 Gly Met Gly Asn Met Glu Asp Ala Leu Arg Thr Phe Met Gly Ala Phe  
                                   100                                  105                                  110  
 Gly Gly Glu Phe Gly Gly Gly Ser Phe Phe Asp Gly Leu Phe Gly Gly  
                                   115                                  120                                  125  
 Leu Gly Glu Ala Phe Gly Met Arg Ser Asp Pro Ala Gly Ala Arg Gln  
   130                                  135                                  140  
 Gly Ala Ser Lys Lys Val His Ile Asn Leu Thr Phe Glu Glu Ala Ala  
   145                                  150                                  155                                  160  
 His Gly Val Glu Lys Glu Leu Val Val Ser Gly Tyr Lys Ser Cys Glu  
                                   165                                  170                                  175  
 Thr Cys Ser Gly Gln Gly Ala Val Asn Pro Gln Gly Ile Lys Ser Cys  
                                   180                                  185                                  190  
 Glu Arg Cys Lys Gly Ser Gly Gln Val Val Gln Ser Arg Gly Phe Phe  
   195                                  200                                  205  
 Ser Met Ala Ser Thr Cys Pro Glu Cys Gly Gly Glu Gly Arg Ile Ile  
   210                                  215                                  220  
 Thr Asp Pro Cys Ser Ser Cys Arg Gly Gln Gly Arg Val Lys Asp Lys





Ala Leu Ile Leu Ile Asp Val Val Arg Leu Ser Ser His Ser Asn Ser  
 245 250 255  
 Asp Asn Gln Glu Lys Tyr Arg Ser Ala Leu Asp Leu Lys Leu Ser Met  
 260 265 270  
 Asp Lys Asp Pro Leu Ile Leu Leu Glu Lys Glu Ala Ile Asn Val Phe  
 275 280 285  
 Gly Leu Ser Pro Phe Glu Ile Glu Glu Ile Lys Ala Glu Ala Gln Glu  
 290 295 300  
 Glu Val Arg Lys Ser Cys Glu Ile Ala Glu Ala Leu Pro Phe Pro Ser  
 305 310 315 320  
 Lys Gly Ser Thr Ser His Glu Val Phe Ser Pro Tyr Thr Glu Thr Leu  
 325 330 335  
 Ile Asp Tyr Glu Asn Ser Glu Ser Ala Gln Asn Leu Arg Asn Ser Glu  
 340 345 350  
 Pro Lys Val Met Arg Asp Ala Ile Ser Glu Ala Leu Val Glu Glu Met  
 355 360 365  
 Thr Arg Asp Ser Gly Val Ile Val Phe Gly Glu Asp Val Ala Gly Asp  
 370 375 380  
 Lys Gly Gly Val Phe Gly Val Thr Arg Asn Leu Thr Glu Lys Phe Gly  
 385 390 395 400  
 Pro Gln Arg Cys Phe Asn Ser Pro Leu Ala Glu Ala Thr Ile Ile Gly  
 405 410 415  
 Thr Ala Ile Gly Met Ala Leu Asp Gly Ile His Lys Pro Val Val Glu  
 420 425 430  
 Ile Gln Phe Ala Asp Tyr Ile Trp Pro Gly Ile Asn Gln Leu Phe Ser  
 435 440 445  
 Glu Ala Ser Ser Ile Tyr Tyr Arg Ser Ala Gly Glu Trp Glu Val Pro  
 450 455 460  
 Leu Val Ile Arg Ala Pro Ser Gly Gly Tyr Ile Gln Gly Gly Pro Tyr  
 465 470 475 480  
 His Ser Gln Ser Ile Glu Gly Phe Leu Ala His Cys Pro Gly Ile Lys  
 485 490 495  
 Val Ala Tyr Pro Ser Asn Ala Ala Asp Ala Lys Ala Leu Leu Lys Ala  
 500 505 510  
 Ala Ile Arg Asp Pro Asn Pro Val Val Phe Leu Glu His Lys Ala Leu  
 515 520 525  
 Tyr Gln Arg Arg Ile Phe Ser Ala Cys Pro Val Phe Ser His Asp Tyr  
 530 535 540  
 Val Leu Pro Phe Gly Lys Ala Ala Ile Val His Pro Gly Lys Asp Leu  
 545 550 555 560  
 Thr Ile Val Ser Trp Gly Met Pro Leu Val Leu Ser Leu Glu Val Ala  
 565 570 575  
 Gln Glu Leu Ala Ser Arg Gly Ile Ser Ile Glu Val Ile Asp Leu Arg  
 580 585 590  
 Thr Met Val Pro Cys Asp Phe Ala Thr Val Leu Lys Ser Leu Glu Lys  
 595 600 605  
 Thr Gly Arg Leu Leu Val Ile His Glu Ala Ser Glu Phe Cys Gly Phe  
 610 615 620  
 Gly Ser Glu Leu Val Ala Thr Met Ser Glu Gln Gly Tyr Ala Tyr Leu  
 625 630 635 640  
 Asp Ala Pro Ile Arg Arg Leu Gly Gly Leu His Ala Pro Val Pro Tyr  
 645 650 655  
 Ser Lys Val Leu Glu Asn Glu Val Leu Pro His Lys Glu Ser Ile Leu  
 660 665 670  
 Gln Ala Ala Lys Ser Leu Ala Glu Phe  
 675 680

<210> 36

<211> 429

<212> PRT

<213> Chlamydia pneumoniae

<400> 36

Val Asn Phe Leu Leu Pro Thr Thr Cys Arg Gly Ile Leu Met Ala Glu  
1 5 10 15  
Ile Ser Thr Pro Ser Leu Pro Asp Ser Ser Ile Val Ser Gln Lys Thr  
20 25 30  
Pro Pro Val Pro Asp Pro Asp Ser Ser Pro Asp His Ile Pro Thr Ile  
35 40 45  
Pro Thr Gln Ala Pro Phe Lys Pro Gln Arg Lys Lys Glu Thr Pro Ser  
50 55 60  
Ser Ile Val Asn Ala Ile Ala Phe Ala Ile Leu Ala Phe Leu Ser Cys  
65 70 75 80  
Leu Gly Gly Val Phe Ala Ile Cys Leu Gly Cys Ser Leu Glu Ile Thr  
85 90 95  
Met Pro Leu Phe Ile Leu Thr Ala Val Phe Ile Ala Phe Thr Leu Leu  
100 105 110  
Tyr Phe Ile His Tyr Leu Glu Lys Pro Lys Ile Pro Glu Pro Leu Pro  
115 120 125  
Thr Pro Pro Pro Ser Pro Thr Leu Arg Ala Pro Thr Leu Thr Pro Glu  
130 135 140  
Ile Pro Ala Pro Ala Pro Gly Ile Pro Leu Pro Pro Thr Leu Pro Lys  
145 150 155 160  
Val Asp Arg Thr Lys Leu Thr Cys Asn Pro Asp Ile His Tyr Pro Ser  
165 170 175  
Thr Tyr Asp Pro Lys Ala Cys Phe Ser Leu Leu Lys Gln Leu Phe Ser  
180 185 190  
Leu Asp Pro Glu Thr Arg Pro Glu Asp Arg Lys Tyr Ser Asn Lys Leu  
195 200 205  
Ala Ser Ile Leu Leu Arg Ser Lys Glu Lys Ser Gly Phe Arg Phe His  
210 215 220  
Cys Phe Lys Gly His Phe Ser His Asp Lys Ile Leu Asn Lys Lys Ser  
225 230 235 240  
Gly Ala Val Val Ile Ser Ser His Ser Ser Met Asp Phe Ser Thr Thr  
245 250 255  
Leu Gly Arg Ala Phe Ala Val Thr Thr Cys Leu Gln Arg Ser Cys Trp  
260 265 270  
Glu Lys Ile Lys Asn Asn Ile Pro Thr Pro Glu Lys His Leu Pro Ile  
275 280 285  
Gly Ser Cys Val Ser Gly Pro Trp Asp Val Glu Glu Gly Ala Gln Leu  
290 295 300  
Tyr Thr Ser His Leu Ile Val Ile Asn Pro Pro Thr Leu Glu Thr Leu  
305 310 315 320  
Ile Lys Glu Lys Met Arg Arg Ala Ile Thr Leu Lys Asp Phe Ser Met  
325 330 335  
Lys Glu Ala Phe Thr Asn Leu Val Leu Ala Tyr Leu Gln Cys Phe Asp  
340 345 350  
Ile Cys Ile Glu His Asn Leu Glu Ser Val Gln Leu Glu Val Phe Gly  
355 360 365  
Leu Asn Asn Leu Ser Ala Asp Gln Glu Glu Phe Thr Thr Trp Glu Ser  
370 375 380  
Cys Cys His Leu Ala Leu Leu Glu Ser Val Arg Ile Leu Leu Ala Ser  
385 390 395 400  
Lys Glu Glu Tyr Ala Leu Ser Asn Val Ser Val Asn Ser Ile Ser Gln  
405 410 415  
Val Pro Leu Gln Thr Ala Cys Arg Ala Leu Phe Leu Asn  
420 425

<210> 37

<211> 526

<212> PRT

<213> Chlamydia pneumoniae

<400> 37

Ala	Arg	Thr	Thr	Leu	Glu	Glu	Asp	Ala	Gly	Ser	Ser	Leu	Lys	Pro	Leu	1	5	10	15
Pro	Lys	Thr	Phe	Pro	Cys	Ala	Thr	Ala	Leu	Tyr	Ile	Thr	His	Arg	Arg	20	25	30	
Glu	Arg	Lys	Ser	Glu	His	Gln	Met	Trp	Asn	Arg	Cys	Gln	Val	Phe	Ser	35	40	45	
Ser	Phe	Phe	Phe	Arg	Tyr	Pro	Ile	Ser	Ser	Trp	Leu	Ile	Arg	Leu	Arg	50	55	60	
Ala	Ser	Cys	Glu	Cys	Phe	Gln	Gln	Arg	His	Pro	Ile	Phe	Leu	Cys	Gly	65	70	75	80
Leu	Tyr	Trp	Leu	Ala	Gly	Ile	Thr	Ser	Arg	Gly	His	Pro	Glu	Cys	Ser	85	90	95	
Ala	Leu	Ile	Leu	Ile	Phe	Leu	Gly	Met	Phe	Leu	Pro	Arg	Asn	Pro	Lys	100	105	110	
Gln	Trp	Leu	Pro	Leu	Ala	Ser	Ala	Trp	Ile	Ile	Ser	Leu	Met	Leu	Thr	115	120	125	
Pro	Ala	Pro	Phe	Leu	His	Asp	Gly	Pro	Ile	Ser	Gly	Thr	Phe	Val	Ile	130	135	140	
His	His	Ala	Gly	Gly	Gln	Gly	Thr	Tyr	Tyr	Gly	Glu	Ala	Leu	Cys	Ile	145	150	155	160
Gln	Thr	Pro	Cys	Gly	Lys	Arg	Ala	His	His	Leu	Ser	Cys	Gln	Ile	Leu	165	170	175	
Ser	Glu	Ser	Arg	Leu	Glu	Leu	Lys	Lys	Val	Tyr	Glu	Leu	Glu	Gly	Thr	180	185	190	
Leu	His	His	Thr	Ser	Gln	Ile	Val	Phe	Lys	Ser	Asn	Ala	Cys	Tyr	Lys	195	200	205	
Glu	Ile	Pro	Arg	Ser	Arg	Phe	Tyr	Ile	Met	Lys	Glu	Lys	Cys	Arg	Glu	210	215	220	
Ser	Ser	Cys	His	Phe	Leu	Asn	His	Arg	Phe	Pro	Ser	Ser	Glu	Val	Gly	225	230	235	240
Pro	Phe	Ala	Ser	Ser	Leu	Leu	Leu	Gly	Thr	Pro	Leu	Pro	Gln	Asn	Leu	245	250	255	
Arg	Asp	Leu	Phe	Arg	Gln	Lys	Gly	Leu	Ser	His	Leu	Phe	Ala	Ile	Ser	260	265	270	
Gly	Trp	His	Phe	Ser	Leu	Cys	Ala	Thr	Thr	Leu	Trp	Met	Leu	Cys	Ala	275	280	285	
Leu	Leu	Pro	Leu	Lys	Ile	Lys	Lys	Ile	Leu	Ser	Phe	Ile	Val	Leu	Thr	290	295	300	
Ser	Leu	Ala	Cys	Ile	Phe	Pro	Met	Ser	Leu	Ser	Val	Trp	Arg	Ser	Trp	305	310	315	320
Ile	Ser	Val	Thr	Leu	Leu	Cys	Phe	Ser	Trp	Cys	Phe	Ser	Gly	Ser	Cys	325	330	335	
Ser	Gly	Leu	Asn	Arg	Leu	Gly	Ala	Gly	Phe	Ile	Leu	Cys	Ser	Ile	Phe	340	345	350	
Phe	Ser	Pro	Phe	Ser	Pro	Thr	Phe	Val	Leu	Ser	Phe	Leu	Ala	Thr	Leu	355	360	365	
Gly	Ile	Leu	Leu	Phe	Phe	Pro	Lys	Ile	Phe	Ser	Phe	Leu	Tyr	Thr	Pro	370	375	380	
Trp	Thr	Gln	Phe	Leu	Ser	Pro	Phe	Trp	Leu	Tyr	Pro	Ile	Arg	Tyr	Leu	385	390	395	400
Ala	Met	Thr	Leu	Ala	Ile	Ser	Leu	Ser	Ala	Gln	Leu	Phe	Ile	Val	Leu	405	410	415	
Pro	Ile	Met	Gln	Tyr	Phe	Gly	Ser	Leu	Pro	Leu	Glu	Gly	Leu	Leu	Tyr	420	425	430	
Asn	Leu	Ile	Val	Pro	Phe	Thr	Ile	Leu	Pro	Ile	Ile	Val	Phe	Leu	Ile	435	440	445	
Ala	Thr	Ile	Ile	Leu	Pro	Cys	Cys	Ser	Pro	Ile	Thr	Glu	Ala	Leu	Ile	450	455	460	
Gln	Gly	Phe	Leu	Ser	His	Pro	Trp	Leu	His	Asn	Pro	Asn	Ile	Leu	Lys	465	470	475	480

Thr Leu Ser Phe Ala Pro Val Pro Pro Trp Met Leu Thr Leu Ala Ser  
485 490 495  
Leu Ile Leu Phe Phe Ile Gly Ile Leu Arg Thr Asn Val Ser Pro Tyr  
500 505 510  
Ala Ser Ile Ser Ala Thr Ser Tyr Arg Phe Ile Glu Thr Leu  
515 520 525

<210> 38  
<211> 276  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 38  
Ala Lys Ser Leu Trp Asp Ser Glu Arg Lys Lys Met Lys Lys Pro Asp  
1 5 10 15  
Asn Asp Ser Thr Phe Asp Val Arg Ser Phe Phe Pro Phe Asp Val Leu  
20 25 30  
Cys Ile Glu Gln Leu Arg Lys Glu Met Ser Trp Glu Val Val Ser Ala  
35 40 45  
Lys Ile Pro Arg Leu Pro Arg Gly Trp Tyr Glu Leu Met Gly Leu Ser  
50 55 60  
Lys Glu Asp Arg Ile Asp Phe Cys Leu Asp Phe Trp Cys Ser Val Leu  
65 70 75 80  
Gly Ile Glu His Lys Glu Ser Pro Ser Ile Cys Arg Phe Phe Ser Leu  
85 90 95  
Leu Glu Thr Ile Glu Val Tyr Ile Tyr Arg Leu Glu Lys Glu Pro Tyr  
100 105 110  
Gln Leu Lys Met Phe Tyr Val Phe Arg Asp Gly Arg Cys Gly Phe Gln  
115 120 125  
Gly Glu Pro Pro Leu Leu Asp Phe Leu Gly His His Arg Leu Pro Pro  
130 135 140  
Leu Gly Asp Arg His Tyr Glu Lys Phe Phe Ser Ile His Asn Gly Phe  
145 150 155 160  
Gly Lys Trp Glu Asp Glu Gly Ile Phe Pro Met Arg Ser Leu Ala Lys  
165 170 175  
Val Gln Gln Lys Leu Arg Gln Gln Leu Val Val Met Asn Lys Met Gln  
180 185 190  
Ala Glu Asp Asn Cys Tyr Ser Leu Gly Ile Phe Pro Phe Tyr Gly Tyr  
195 200 205  
Glu Glu Pro Phe Ala Tyr Gln Ser Phe Phe Phe Asp Pro Glu Ile Arg  
210 215 220  
Arg Asp Leu Pro Ser Pro Asn Val Leu Leu Asn Glu Glu Ser Leu Glu  
225 230 235 240  
His Arg Ser Leu Glu Thr Ile Glu Leu Leu His Leu Ser Lys Ser Tyr  
245 250 255  
Tyr Pro Ser Phe Leu Ser Trp Leu Glu Asn Tyr Leu His Ser Glu Glu  
260 265 270  
Val Tyr Asn Glu  
275

<210> 39  
<211> 138  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 39  
Lys Leu Leu Ser Cys Cys Ile Cys Leu Arg Ala Ile Ile Leu Leu Ser  
1 5 10 15  
Ser Arg Gly Trp Arg Thr Ile Tyr Ile Val Arg Arg Cys Ile Met Asn  
20 25 30

Glu Pro Thr Arg Thr Tyr Leu Glu Ser Glu Lys Asp Thr Gln Asp Gln  
           35                  40                  45  
 Ile Glu Glu Leu Gln Ala Thr Cys Ile Val Lys Asn Ala Ala Gly Ile  
           50                  55                  60  
 His Val Arg Pro Ala Gly Val Ile Val Arg Leu Phe Asp Gly Glu Pro  
 65                  70                  75                  80  
 Cys Asp Val His Phe Thr Tyr Ala Gly Lys Thr Ile Asn Ala Lys Ser  
                   85                  90                  95  
 Ile Met Ser Ile Leu Met Leu Gly Ala Pro Gln Gly Gly Glu Ile Leu  
                   100                  105                  110  
 Val Thr Ile Arg Ser Lys Glu Ala His Arg Ile Leu Gln Lys Ile Gln  
                   115                  120                  125  
 Asp Ala Phe Ser Ser Gly Phe Gly Glu Leu  
           130                  135

<210> 40  
 <211> 571  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 40  
 Met Asp Thr Gln Ser Ser Thr Gly Asn Glu Glu Trp Arg Ile Ala Gly  
   1                  5                  10                  15  
 Thr Ser Ile Val Ser Gly Met Ala Leu Gly Lys Val Phe Phe Leu Gly  
           20                  25                  30  
 Thr Ser Pro Leu His Val Arg Glu Leu Thr Leu Pro Gln Glu Glu Val  
           35                  40                  45  
 Glu His Glu Ile His Arg Tyr Tyr Lys Ala Leu Asn Arg Ser Lys Ser  
   50                  55                  60  
 Asp Ile Val Ala Leu Glu Gln Glu Val Thr Gly Gln Gln Gly Leu Gln  
 65                  70                  75                  80  
 Glu Val Ser Ser Ile Leu Gln Ala His Leu Glu Ile Met Lys Asp Pro  
                   85                  90                  95  
 Leu Leu Thr Glu Glu Val Val Asn Thr Ile Arg Lys Asp Arg Lys Asn  
           100                  105                  110  
 Ala Glu Tyr Val Phe Ser Ser Val Met Gly Lys Ile Glu Glu Ser Leu  
           115                  120                  125  
 Thr Ala Val Arg Gly Met Pro Ser Val Val Asp Arg Val Gln Asp Ile  
   130                  135                  140  
 His Asp Ile Ser Asn Arg Val Ile Gly His Leu Cys Cys Gln His Lys  
 145                  150                  155                  160  
 Ser Ser Leu Gly Glu Ser Asp Gln Asn Leu Ile Ile Phe Ser Glu Glu  
           165                  170                  175  
 Leu Thr Pro Ser Glu Val Ala Ser Ala Asn Ser Ala Tyr Ile Arg Gly  
           180                  185                  190  
 Phe Val Ser Leu Val Gly Ala Ala Thr Ser His Thr Ala Ile Val Ser  
           195                  200                  205  
 Arg Ala Lys Ser Ile Pro Tyr Leu Ala Asn Ile Ser Glu Glu Leu Trp  
   210                  215                  220  
 Asn Ile Ala Lys Arg Tyr Asn Gly Lys Leu Val Leu Ile Asp Gly Tyr  
 225                  230                  235                  240  
 Arg Gly Glu Leu Ile Phe Asn Pro Lys Pro Ala Thr Leu Gln Ser Cys  
           245                  250                  255  
 Tyr Lys Lys Glu Leu Ser Val Val Ala His Thr Ser Gln Arg Leu Val  
           260                  265                  270  
 Arg Lys Ser Leu His Pro Ile Val Ser Ser His Ala Gly Ser Asp Lys  
           275                  280                  285  
 Asp Val Glu Asp Leu Leu Glu Asn Phe Pro Gln Thr Ser Ile Gly Leu  
   290                  295                  300  
 Phe Arg Ser Glu Phe Leu Ala Val Ile Leu Gly Arg Leu Pro Thr Leu  
 305                  310                  315                  320

Arg Glu Gln Val Asp Leu Tyr Glu Lys Leu Ala Arg Phe Pro Gly Asp  
 325 330 335  
 Ser Pro Ser Val Leu Arg Leu Phe Asp Phe Gly Glu Asp Lys Pro Cys  
 340 345 350  
 Pro Gly Ile Lys Asn Lys Lys Glu Arg Ser Ile Arg Trp Leu Leu Asp  
 355 360 365  
 Tyr Ser Val Ile Leu Glu Asp Gln Leu Gln Ala Ile Ala Lys Ala Ser  
 370 375 380  
 Leu Gln Gly Ser Ile Lys Val Leu Ile Pro Gly Val Ser Asp Val Ser  
 385 390 395 400  
 Glu Ile Ile Glu Val Lys Lys Lys Trp Glu Thr Ile Arg Thr Arg Phe  
 405 410 415  
 Pro Lys Gly His Lys Val Ser Trp Gly Thr Met Ile Glu Phe Pro Ser  
 420 425 430  
 Ala Val Trp Met Ile Glu Glu Ile Leu Pro Glu Cys Asp Phe Leu Ser  
 435 440 445  
 Ile Gly Thr Asn Asp Leu Val Gln Tyr Thr Leu Gly Ile Ser Arg Glu  
 450 455 460  
 Ser Ala Leu Pro Lys His Leu Asn Val Thr Leu Pro Pro Ala Val Ile  
 465 470 475 480  
 Arg Met Ile His His Val Leu Gln Ala Ala Lys Gln Asn Gln Val Pro  
 485 490 495  
 Val Ser Ile Cys Gly Glu Ala Ala Gly Gln Leu Ser Leu Thr Pro Leu  
 500 505 510  
 Phe Ile Gly Leu Gly Val Gln Glu Leu Ser Val Ala Met Pro Val Ile  
 515 520 525  
 Asn Arg Leu Arg Asn His Ile Ala Leu Leu Glu Leu Asn Ser Cys Leu  
 530 535 540  
 Glu Ile Thr Glu Ala Leu Leu Gln Ala Lys Thr Cys Ser Glu Val Glu  
 545 550 555 560  
 Glu Leu Leu Asn Arg Asn Asn Lys Ile Thr Ser  
 565 570

<210> 41  
 <211> 98  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 41  
 Ile Ser Met Gly Ser Gly Tyr Ala Lys Lys Lys Glu Ala Lys Ile  
 1 5 10 15  
 Met Glu Gln Gln Phe Leu Glu Met Glu Ala Ser Leu Leu Glu Lys Arg  
 20 25 30  
 Tyr Glu Gly Gln Ala Gly Asn Gly Leu Val Ser Val Val Ile Asn Gly  
 35 40 45  
 Lys Cys Asp Leu Ile Ser Val Lys Val Gln Pro Thr Cys Leu Asp Pro  
 50 55 60  
 Glu Asp Pro Glu Val Ile Glu Asp Leu Phe Arg Ala Ala Phe Lys Leu  
 65 70 75 80  
 Ala Lys Glu Gln Met Asp Gln Glu Met Ser Leu Met Arg Ser Thr Met  
 85 90 95  
 Pro Phe

<210> 42  
 <211> 452  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 42

Ala	Phe	Tyr	Thr	His	Ser	Leu	Gly	Tyr	Thr	Met	Thr	Leu	Gln	Pro	Tyr
1				5					10					15	
Gln	Ala	Ser	Ser	Arg	Lys	Tyr	Arg	Pro	Gln	Ile	Phe	Arg	Glu	Ile	Leu
			20					25					30		
Gly	Gln	Ser	Ser	Val	Val	Ala	Val	Leu	Lys	Asn	Ala	Leu	Val	Phe	Asn
		35					40					45			
Arg	Ala	Ala	His	Ala	Tyr	Leu	Phe	Ser	Gly	Ile	Arg	Gly	Thr	Gly	Lys
	50					55					60				
Thr	Thr	Leu	Ala	Arg	Ile	Leu	Ala	Lys	Ala	Leu	Asn	Cys	Val	His	Leu
65					70					75				80	
Ser	Glu	Asp	Gly	Glu	Pro	Cys	Asn	Gln	Cys	Phe	Ser	Cys	Lys	Glu	Ile
			85					90					95		
Ala	Ser	Gly	Ser	Ser	Leu	Asp	Val	Leu	Glu	Ile	Asp	Gly	Ala	Ser	His
			100					105					110		
Arg	Gly	Ile	Glu	Asp	Ile	Arg	Gln	Ile	Asn	Glu	Thr	Val	Leu	Phe	Thr
	115						120					125			
Pro	Val	Lys	Ala	Lys	Phe	Lys	Ile	Tyr	Ile	Ile	Asp	Glu	Val	His	Met
	130					135					140				
Leu	Thr	Lys	Glu	Ala	Phe	Asn	Ala	Leu	Leu	Lys	Thr	Leu	Glu	Glu	Pro
145					150					155				160	
Pro	Gln	His	Val	Lys	Phe	Phe	Phe	Ala	Thr	Thr	Glu	Ile	His	Lys	Ile
				165				170					175		
Pro	Gly	Thr	Ile	Leu	Ser	Arg	Cys	Gln	Lys	Met	His	Leu	Gln	Arg	Ile
		180					185					190			
Pro	Glu	Lys	Thr	Ile	Leu	Glu	Lys	Leu	Ser	Leu	Met	Ala	Gln	Asp	Asp
	195					200					205				
His	Ile	Glu	Ala	Ser	Gln	Glu	Ala	Leu	Ala	Pro	Ile	Ala	Arg	Ala	Ala
	210					215				220					
Gln	Gly	Ser	Leu	Arg	Asp	Ala	Glu	Ser	Leu	Tyr	Asp	Tyr	Val	Ile	Ser
225					230					235				240	
Leu	Phe	Pro	Lys	Ser	Leu	Ser	Pro	Asp	Thr	Val	Ala	Gln	Ala	Leu	Gly
			245					250					255		
Phe	Ala	Ser	Gln	Asp	Ser	Leu	Arg	Thr	Leu	Asp	Asn	Ala	Ile	Leu	Gln
		260					265					270			
Arg	Asp	Tyr	Ala	Thr	Ala	Leu	Gly	Ile	Val	Thr	Asp	Phe	Leu	Asn	Ser
	275					280					285				
Gly	Val	Ala	Pro	Val	Thr	Phe	Leu	His	Asp	Leu	Thr	Leu	Phe	Tyr	Arg
	290				295				300						
Asn	Leu	Leu	Leu	Thr	Asn	Ser	Thr	Thr	Ser	Lys	Phe	Ser	Ser	Gln	Tyr
305					310					315				320	
Lys	Thr	Glu	Gln	Leu	Leu	Glu	Ile	Ile	Asp	Phe	Leu	Gly	Glu	Ser	Ala
			325					330				335			
Lys	His	Leu	Gln	Asn	Thr	Ile	Phe	Glu	Gln	Thr	Phe	Leu	Glu	Thr	Val
		340					345					350			
Ile	Ile	His	Ile	Ile	Arg	Ile	Tyr	Gln	Arg	Pro	Val	Leu	Ser	Glu	Leu
	355					360					365				
Ile	Ser	Ser	Ile	Lys	Ser	Arg	Gln	Phe	Glu	Gly	Leu	Arg	Asn	Ile	Lys
	370				375					380					
Glu	Pro	Thr	Leu	Thr	Gln	Gln	Val	Ser	Ala	Pro	Gln	Pro	Gln	Pro	Thr
385				390					395					400	
Tyr	Lys	Glu	Gln	Ser	Phe	Leu	Glu	Lys	Lys	Asn	Gln	Pro	Ala	Ala	Glu
			405					410				415			
Gly	Lys	Ile	Ile	Ser	Val	Glu	Val	Lys	Ser	Ser	Ala	Ser	Ile	Lys	Ser
		420					425					430			
Ala	Ala	Val	Asp	Thr	Leu	Leu	Gln	Phe	Ala	Val	Val	Glu	Phe	Ser	Gly
		435				440					445				
Ile	Leu	Arg	Gln												
	450														

<210> 43  
 <211> 485  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 43  
 Cys Lys Tyr Leu Tyr His His Ser Tyr Pro Pro Pro Gln His Ser Val  
 1 5 10 15  
 Gly Ser Ile Ser Ser Arg Tyr Lys Leu Arg Val Leu Ala Ile Thr Phe  
 20 25 30  
 Leu Val Leu Gly Val Leu Leu Leu Ile Ser Gly Ala Leu Phe Leu Thr  
 35 40 45  
 Leu Gly Ile Pro Gly Leu Thr Ala Gly Val Ser Phe Gly Leu Gly Ile  
 50 55 60  
 Gly Leu Ser Ala Leu Gly Gly Val Leu Val Val Ser Gly Leu Leu Cys  
 65 70 75 80  
 Leu Leu Val Lys Arg Glu Val Ser Lys Val Cys Pro Glu Glu Ile Pro  
 85 90 95  
 Ala Val Gln Pro Glu Glu Thr Pro Glu Gly Val Pro Val Thr Pro Phe  
 100 105 110  
 Glu Lys Pro Ala Leu Asp Glu Ala Gln Lys Glu Gln Lys Thr Gln Lys  
 115 120 125  
 Ile Leu Asp Gln Leu Pro Gln Glu Leu Asp Gln Leu Asp Arg Tyr Ile  
 130 135 140  
 Gln Glu Ala Phe Ala Cys Leu Gly Pro Leu Lys Asp Leu Lys Tyr Glu  
 145 150 155 160  
 Asp Gln Gly Phe Leu Gln Asp Val Lys Glu Glu Phe Gln Val Phe Asp  
 165 170 175  
 Phe Val Gln Lys Asp Met Ile Ala Glu Phe Val Glu Leu Gln Gln Ile  
 180 185 190  
 Leu Cys Gln Glu Gly Arg Leu Leu Glu Phe Val Ile Asn Gln Thr Arg  
 195 200 205  
 Tyr Ile Gly Arg Asp Leu Phe Lys Arg Glu Asp Ser Leu Tyr Lys Leu  
 210 215 220  
 Trp Glu Trp Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg Gly Glu Arg  
 225 230 235 240  
 Leu Lys Lys Ser Ala Arg Glu Val Val Asp Arg Phe Met Arg Thr Thr  
 245 250 255  
 Cys Asn Ile Arg Lys Ile Ala Met Thr Phe Asp Arg His Val Tyr Ser  
 260 265 270  
 Val Ala Lys Thr Ala Phe Glu Lys Ala Phe Gly Ala Leu Glu Thr Cys  
 275 280 285  
 Val Tyr Glu Ser Met Arg Glu Ser Tyr Arg Glu Ala Phe Cys Glu Tyr  
 290 295 300  
 Glu Lys Ala Lys Leu Leu Gly Asp Glu Glu Lys Ser Ala His Ala Glu  
 305 310 315 320  
 Gln Arg Phe Gln Asp Ile Lys Asn Arg Trp Glu Asp Val Lys Asp Ala  
 325 330 335  
 Phe Phe Trp Val Lys Glu Asp Gly Lys Ile Glu Ile Asp Asp Ala Ile  
 340 345 350  
 Gly Asn Ser Cys Lys Trp Ser Glu Arg Tyr Glu Glu His Arg Ile Thr  
 355 360 365  
 Arg Ala Arg Trp Tyr Lys Val Ala Glu His Gln Leu Phe Asn Ala Thr  
 370 375 380  
 Met Arg Val Lys Asp Ser Leu Arg Glu His Asn Glu Ala Arg Val Ala  
 385 390 395 400  
 Phe Glu Lys Glu Arg Ser Lys Glu Asn Gln Arg Gln Val Gln Lys Lys  
 405 410 415  
 Lys Glu Lys Arg Leu Arg Asp Leu Lys Glu Leu His Asp Gln Glu Leu  
 420 425 430

Pro Arg Ala Gln Glu Arg Leu Arg Glu Leu Gln Ala Leu Tyr Pro Glu  
435 440 445  
Ile Ala Val Ser Val Val Glu Ala Arg Arg Glu Val Ala Ser Asp Leu  
450 455 460  
Glu Lys Ala His Glu Ser Ile Asp Lys His Tyr Gln Ser Cys Val Arg  
465 470 475 480  
Glu Gln Glu Leu Tyr  
485

<210> 44  
<211> 279  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 44  
Glu Glu Glu Glu Lys Gln Glu Ala Glu Phe Arg Glu Asn Gly Thr Lys  
1 5 10 15  
Ile Arg Ser Met Glu Glu Val Ser Glu Tyr Leu Gln Gln Val Glu Asn  
20 25 30  
Gln Leu Glu Ser Cys Ser Lys Arg Leu Thr Lys Met Glu Thr Phe Ala  
35 40 45  
Leu Gly Val Arg Leu Glu Ala Lys Glu Glu Ile Glu Ser Ile Ile Leu  
50 55 60  
Ser Asp Val Val Asn Arg Phe Glu Val Leu Cys Arg Asp Ile Glu Asp  
65 70 75 80  
Met Leu Ser Arg Val Glu Glu Ile Glu Arg Met Leu Arg Met Ala Glu  
85 90 95  
Leu Pro Leu Leu Pro Ile Lys Glu Ala Leu Thr Lys Ala Phe Val Gln  
100 105 110  
His Asn Ser Cys Lys Glu Lys Leu Thr Lys Val Glu Pro Tyr Phe Lys  
115 120 125  
Glu Ser Pro Ala Tyr Leu Thr Ser Glu Glu Arg Leu Gln Ser Leu Asn  
130 135 140  
Gln Thr Leu Gln Arg Ala Tyr Lys Glu Ser Gln Lys Val Ser Gly Leu  
145 150 155 160  
Glu Ser Glu Val Arg Ala Cys Arg Glu Gln Leu Lys Asp Gln Val Arg  
165 170 175  
Gln Phe Glu Thr Gln Gly Val Ser Leu Ile Lys Glu Glu Ile Leu Phe  
180 185 190  
Val Thr Ser Thr Phe Arg Thr Lys Phe Ser Tyr His Ser Phe Arg Leu  
195 200 205  
His Val Pro Cys Met Arg Leu Tyr Glu Glu Tyr Tyr Asp Asp Ile Asp  
210 215 220  
Leu Glu Arg Thr Arg Ala Arg Trp Met Ala Met Ser Glu Arg Tyr Arg  
225 230 235 240  
Asp Ala Phe Gln Ala Phe Gln Glu Met Leu Lys Glu Gly Leu Val Glu  
245 250 255  
Glu Ala Gln Ala Leu Arg Glu Thr Glu Tyr Trp Leu Tyr Arg Glu Glu  
260 265 270  
Arg Lys Ser Lys Lys His  
275

<210> 45  
<211> 647  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 45  
His His Arg Phe Ile Met Gln Val Pro Leu Ser Pro Gln Leu Pro Pro  
1 5 10 15

381

Lys Val Arg Ser Met Glu Glu Val Ala Glu His Leu Gln Ile Leu Glu  
 500 505 510  
 Asn Leu Leu Glu Asp Cys Tyr Lys Arg Leu Ser Lys Ala Glu Thr Phe  
 515 520 525  
 Ala Leu Gly Val Glu Arg Glu Ala Thr Glu Glu Ile Glu Tyr Thr Ile  
 530 535 540  
 Leu Ser Asp Ala Ala Asn Arg Leu Lys Val Leu Cys Glu Asp Ile Glu  
 545 550 555 560  
 Asp Thr Leu Pro Arg Val Glu Glu Ile Glu Met Met Leu Arg Met Ala  
 565 570 575  
 Glu Arg Pro Leu His Pro Ile Lys Gln Ala Phe Thr Lys Ala Phe Val  
 580 585 590  
 Gln Tyr Asn Arg Cys Lys Glu Arg Leu Ala Lys Val Glu Pro Tyr Tyr  
 595 600 605  
 Lys Glu Ser Pro Ala Tyr Val Asn Ser Glu Glu Arg Leu Gln Ser Leu  
 610 615 620  
 Asp Gln Ala Ser Gln Cys Ile Gln Arg Val Pro Lys Gly Phe Lys Phe  
 625 630 635 640  
 Arg Asn Gly Ser Met Tyr Ile  
 645

<210> 46  
 <211> 167  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 46  
 Ile Ala Lys Ser Asp Cys Arg Val Trp Ile Arg Leu His Ser Ala Tyr  
 1 5 10 15  
 Lys Glu Ser Gln Lys Val Ser Ser Leu Glu Thr Glu Ala Cys Thr Tyr  
 20 25 30  
 Arg Glu Tyr Leu Arg Glu Gln Val Gln Gln Phe Glu Thr Gln Gly Val  
 35 40 45  
 Ser Leu Ile Lys Glu Glu Leu Leu Phe Leu Ser Ser Thr Leu Lys Ser  
 50 55 60  
 Lys Leu Ser Tyr Asp Pro Leu Ile Ala Asn Ile Pro Cys Met Lys Phe  
 65 70 75 80  
 Tyr Tyr Gln Tyr Tyr Asp Asp Ile Asp Lys Ala Arg Ala Gln Ser Arg  
 85 90 95  
 Trp Leu Glu Lys Ser Glu Arg Tyr Arg Asn Ala Lys Arg Arg Phe Gln  
 100 105 110  
 Glu Ile Val Lys Lys Gly Leu Phe Lys Glu Ala Lys Pro Leu Lys Lys  
 115 120 125  
 Glu Glu Tyr Arg Leu Leu Gln Glu Glu Arg Ser Asn Lys Glu Lys Arg  
 130 135 140  
 Leu Ile Tyr Asn Lys Met Ala Val Ala Arg Gln Arg Val Gln Glu Phe  
 145 150 155 160  
 Glu Ser Met Glu Ile Pro Glu  
 165

<210> 47  
 <211> 610  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 47  
 Cys Lys Tyr Thr Tyr His Pro Pro Gln Leu Pro Pro Asp His Ser Val  
 1 5 10 15  
 Gly Ala Thr Ser Trp Gln Pro Lys Leu Arg Ile Leu Thr Ile Thr Phe  
 20 25 30

Leu	Val	Leu	Gly	Val	Leu	Leu	Leu	Ile	Ser	Gly	Ala	Leu	Phe	Leu	Thr
	35						40					45			
Leu	Gly	Val	Pro	Gly	Leu	Ala	Ala	Gly	Leu	Ser	Phe	Gly	Leu	Gly	Ile
50					55						60				
Gly	Leu	Ser	Ala	Leu	Gly	Gly	Val	Leu	Val	Val	Ser	Gly	Leu	Leu	Phe
65				70						75					80
Phe	Leu	Ile	Arg	Arg	Gly	Val	Ser	Lys	Val	Arg	Pro	Glu	Glu	Ile	Pro
			85						90					95	
Val	Thr	Pro	Ser	His	Glu	Ala	Gln	Lys	Ile	Leu	Cys	Gln	Leu	Pro	Gln
		100						105						110	
Glu	Leu	Asp	Gln	Leu	Asp	Thr	Ser	Ile	Gln	Glu	Val	Val	Ser	Cys	Leu
	115						120					125			
Gly	Lys	Leu	Lys	Asp	Leu	Lys	Tyr	Glu	Asp	Gln	Gly	Leu	Leu	Thr	Glu
130						135					140				
Val	Gln	Glu	Lys	Leu	Arg	Val	Phe	Asp	Phe	Val	Arg	Lys	Asp	Met	Val
145					150					155					160
Thr	Glu	Phe	Leu	Glu	Leu	Gln	Gln	Val	Val	Ala	Gln	Glu	Gly	Gln	Phe
			165						170					175	
Leu	Asp	Tyr	Leu	Ile	Asn	Gln	Val	Gln	Ser	Ile	Ser	His	Lys	Leu	Phe
		180						185					190		
Val	Pro	Asp	Val	Asn	Ile	Gly	Ala	His	Leu	Ala	Glu	Leu	Cys	Gly	Tyr
	195						200					205			
Leu	Pro	Ser	Gly	Asp	Val	Arg	Val	Glu	Arg	Leu	Lys	Arg	Ser	Ala	Arg
210						215					220				
Gln	Val	Val	Asp	Arg	Phe	Met	Arg	Val	Thr	Cys	Asp	Thr	Arg	Lys	Val
225					230						235				240
Ala	Met	Ala	Phe	Asp	Glu	Asn	Ala	Cys	Gly	Val	Ala	Lys	Asn	Ala	Phe
			245						250					255	
Asp	Lys	Ala	Phe	Gly	Ala	Leu	Glu	Glu	Cys	Val	Tyr	Lys	Ser	Leu	Thr
		260						265					270		
Glu	Ser	Tyr	Arg	Glu	Ala	Phe	Tyr	Glu	Tyr	Glu	Lys	Ala	Lys	Ile	Leu
	275					280						285			
Arg	Asn	Glu	Asp	Val	Glu	Trp	Leu	Gln	Asp	Lys	Asn	Lys	Ser	Ala	Arg
290						295					300				
Ala	Glu	Gln	Arg	Phe	Arg	Glu	Val	Lys	Asp	Arg	Trp	Glu	Asp	Leu	Lys
305				310						315					320
Glu	Thr	Val	Phe	Trp	Val	Lys	Glu	Asn	Gly	Cys	Ile	Asp	Leu	Glu	Val
			325						330					335	
Leu	Thr	Ala	Val	Gly	Gly	Trp	Pro	Asp	Arg	Gly	Pro	Glu	His	Leu	Ile
		340						345					350		
Pro	Glu	Lys	Arg	Arg	Asn	Lys	Val	Met	Ser	His	Lys	Leu	Trp	Glu	Ala
	355						360					365			
Thr	Met	Arg	Met	Lys	Gly	Ala	Glu	Gly	Thr	Tyr	Ser	Val	Ala	Arg	Val
370						375					380				
Ala	Phe	Glu	Lys	Asp	Gly	Ser	Arg	Lys	Asn	Gln	Lys	Lys	Phe	Gln	Glu
385				390						395					400
Lys	Thr	Lys	Glu	Trp	Leu	Arg	Cys	Leu	Lys	Asp	Leu	His	Asp	Gln	Glu
			405						410					415	
Cys	His	Arg	Ala	Arg	Glu	Arg	Leu	Ala	Glu	Leu	Glu	Ala	Leu	Tyr	Pro
		420						425					430		
Glu	Val	Ser	Val	Ser	Val	Val	Glu	Thr	Glu	Arg	Glu	Thr	Lys	Phe	Lys
	435						440					445			
Leu	Glu	Thr	Ala	Tyr	Gly	Asn	Leu	Glu	Glu	Arg	Tyr	Gln	Ser	Val	Val
450					455						460				
Arg	Asp	Gln	Glu	Asp	Tyr	Trp	Lys	Glu	Glu	Glu	Asn	Lys	Glu	Ala	Glu
465				470						475					480
Phe	Arg	Glu	Lys	Gly	Thr	Lys	Val	Arg	Ser	Pro	Glu	Glu	Val	Val	Glu
			485						490					495	
Tyr	Leu	Gln	Ile	Leu	Glu	Asn	Leu	Ser	Glu	Asp	Cys	Ser	Lys	Gln	Leu
		500						505					510		

Thr Ile Ala Glu Val Val Val Leu Gly Val Glu Leu Glu Ala Thr Ala  
 515 520 525  
 Glu Phe Glu Tyr Thr Ile Leu Ser Asp Ala Ala Asn Arg Leu Lys Val  
 530 535 540  
 Leu Cys Glu Asp Ile Glu Asp Ile Leu Pro Arg Val Glu Glu Ile Glu  
 545 550 555 560  
 Ile Met Leu Arg Ile Ala Glu Leu Pro Phe Leu Pro Ile Lys Gln Ala  
 565 570 575  
 Phe Thr Lys Ala Phe Leu Gln Tyr Asn Ser Cys Lys Asp Lys Leu Ala  
 580 585 590  
 Lys Val Glu Pro Tyr Cys Gln Glu Ser Val Asp Tyr Lys Ser Gly Phe  
 595 600 605  
 Arg Val  
 610

<210> 48  
 <211> 163  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 48  
 Glu Arg Phe Gln Ser Leu Asn Gln Asp Leu Gln Asn Val Tyr Gln Glu  
 1 5 10 15  
 Cys Gln Lys Ala Thr Gly Leu Glu Ser Glu Val Ser Ala Tyr Arg Asp  
 20 25 30  
 His Leu Arg Glu Gln Ile Thr Glu Phe Glu Thr Gln Gly Leu Asp Val  
 35 40 45  
 Ile Lys Glu Glu Leu Leu Phe Val Ser Ser Thr Leu Lys Ser Lys Leu  
 50 55 60  
 Ser Tyr Asp Pro Leu Ile Ala Asp Ile Pro Cys Met Lys Phe Tyr Glu  
 65 70 75 80  
 Glu Tyr Tyr Asp Gly Ile Asp Lys Ala Arg Val Gln Ser Arg Trp Leu  
 85 90 95  
 Glu Lys Ser Glu Arg Tyr Arg Lys Ala Lys Lys Gly Phe Gln Glu Met  
 100 105 110  
 Leu Lys Glu Gly Leu Phe Lys Glu Asp Gln Ala Leu Lys Lys Ala Glu  
 115 120 125  
 Tyr Arg Leu Leu Arg Glu Lys Arg Met Asn Lys Glu Lys Leu Leu Ile  
 130 135 140  
 Cys Asn Lys Ile Glu Ala Ala Gln Gln Arg Val Gln Glu Phe Gly Pro  
 145 150 155 160  
 Ser Asp Ser

<210> 49  
 <211> 72  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 49  
 Glu His Phe His Leu Lys Val Thr Ile Val Gly Phe Phe Arg Phe Val  
 1 5 10 15  
 Leu Glu Gly Ile Leu Thr Met Tyr His Phe Gln Lys Ile Arg Met Thr  
 20 25 30  
 Leu Thr Thr Gln Gly Phe Val Leu Asn Lys Ser Leu Arg Lys Asp Tyr  
 35 40 45  
 Glu Leu Trp Phe Val Tyr Gly Ser Cys Pro Glu Ser Lys Val Lys Leu  
 50 55 60  
 Gln Thr Ser Ser His Lys Trp Leu  
 65 70



<210> 50  
 <211> 705  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 50  
 Met Lys Glu Leu Arg His Glu Ser Tyr Asn Arg Ala Leu His Lys Leu  
 1 5 10 15  
 Ser His Gln Trp Val Arg Tyr Phe Leu Tyr Thr Phe Val Ser Cys Ser  
 20 25 30  
 Phe Ile Val Ala Ile Phe Thr Phe Ala Trp Leu Lys Val Leu Tyr Val  
 35 40 45  
 Pro Glu Tyr Lys Ala Gly Glu Ile Ser Arg Ile Ser Leu Thr Ala Pro  
 50 55 60  
 Met Asp Phe Ser Leu Ser Trp Ser Ala His Lys Phe Tyr Lys Arg Thr  
 65 70 75 80  
 Ala His Ile Ser Glu Ala Phe Gly Lys Val Tyr His Leu Thr Leu Ser  
 85 90 95  
 Pro Gly Ser Leu Leu Ser Lys Glu Gly Asn Ala Asp Glu Asn Thr Asp  
 100 105 110  
 Tyr Trp Phe Lys Lys Ala Ala Asp Phe Leu Leu Ser Thr Asn Phe Val  
 115 120 125  
 Asp Ser Ser Thr Gln Lys Cys Leu Lys Asp Leu Cys Ile Tyr Pro Pro  
 130 135 140  
 Leu Leu Gly Lys Glu Lys Lys Thr Leu Glu Ile Asn Ile Asn Ser Asn  
 145 150 155 160  
 Lys Gly Asn Val Ile Ala Gln Cys Phe Cys His Leu Lys Ile Phe Leu  
 165 170 175  
 Ile Gln Glu Asn Cys Pro Gln Pro Cys Phe Asp Ala Ile Met Asp Ile  
 180 185 190  
 Leu Lys Ile Ala Asn Phe Glu Val Ala Val Asp Lys Glu Met Ser Gly  
 195 200 205  
 Cys Val Lys Gly Glu Leu Leu Gly Lys Arg Cys Ile Glu Lys Ile Thr  
 210 215 220  
 Lys Gly Thr Pro Ile Leu Glu Lys Tyr Gln Arg Ile Asp Asp Arg Asp  
 225 230 235 240  
 Ala Lys Ile Leu Lys Gln Leu Arg Ala Gln Leu Leu Ser Val His Thr  
 245 250 255  
 Leu Phe Ser Cys Arg Ser Leu Trp Gly Ala Ile Phe Val Val Leu Leu  
 260 265 270  
 Ile Leu Leu Trp Gly Tyr Gly Ala Leu Lys Ala Leu Cys Pro Glu Met  
 275 280 285  
 Leu Lys Ser Pro Gln Arg Phe Met Leu Tyr Ile Ala Ile Leu Thr Leu  
 290 295 300  
 Ser Leu Leu Trp Cys Arg Gly Thr Glu Ile Phe Cys Ala Tyr Trp Val  
 305 310 315 320  
 Ser Tyr Leu Ser Tyr Pro Pro Ile Leu Pro Phe Thr Ala Val Leu Leu  
 325 330 335  
 Gly Tyr Phe Leu Gly Leu Pro Ile Ala Gly Phe Ser Cys Thr Phe Leu  
 340 345 350  
 Ala Leu Leu Tyr Thr Leu Gly Ser Asp Leu Trp Asn Asn Ser Trp Phe  
 355 360 365  
 Leu Ser Ile Asn Leu Leu Cys Ser Trp Arg Ile Leu Val Ser Leu His  
 370 375 380  
 Arg Val Ser Arg Leu Ser Ser Val Phe Trp Ala Cys Met Lys Leu Gly  
 385 390 395 400  
 Gly Val Ala Met Gly Ser Leu Leu Met Phe Arg Ile Phe Thr Asn Thr  
 405 410 415  
 Ile Ser Arg Glu Ala Leu Tyr Ala Asp Gly Ile Glu Ser Phe Val Tyr  
 420 425 430

Ser Leu Ile Thr Ala Ile Ser Val Val Ala Leu Ile Pro Val Phe Glu  
 435 440 445  
 Ala Ser Phe Gly Ala Ser Thr Asn Phe Ser Leu Leu Thr Tyr Leu Ser  
 450 455 460  
 Pro Glu Asn Ala Leu Leu Lys Arg Leu Phe Lys Glu Ala Pro Gly Thr  
 465 470 475 480  
 Tyr Gln His Ser Val Leu Val Gly Ser Leu Ala Glu Ala Ala Glu  
 485 490 495  
 Ala Ile Gly Ala Asp Ser Leu Tyr Cys Leu Val Ala Ala His Tyr His  
 500 505 510  
 Asp Ile Gly Lys Leu Ile Asn Pro Gly Phe Phe Ser Glu Asn Gln Lys  
 515 520 525  
 Ile Leu Gln Gln Ser Gly His Ser Leu Ser Pro Leu Glu Cys Ala Lys  
 530 535 540  
 Met Ile Met Arg His Ile Pro Glu Gly Val Asn Leu Ala Arg Gln Ala  
 545 550 555 560  
 Gly Leu Pro Glu Ser Phe Ile Gln Val Ile Glu Glu His His Gly Thr  
 565 570 575  
 Ser Val Ile Arg Ser Ala Tyr Tyr Ser His Met Val Glu Asn Pro Ser  
 580 585 590  
 Thr Gly Ser Phe Asp Glu Glu Leu Phe Arg Tyr Ser Gly Asn Lys Pro  
 595 600 605  
 Ser Ser Lys Glu Thr Thr Ile Ile Met Ile Ala Asp Ser Phe Glu Ala  
 610 615 620  
 Ala Ser Arg Ser Leu Lys Asn Ala Ser Leu Pro Asp Leu Gln Arg Leu  
 625 630 635 640  
 Ile Asp Gln Ile Ile Gln Gly Lys Leu Gln Asp Gly Gln Phe Ser Cys  
 645 650 655  
 Ser Pro Ile Thr Leu Asp Glu Leu Ala Leu Ile Ser Lys Ser Met Val  
 660 665 670  
 Gln Thr Leu Tyr Gly Ala Leu His Ser Arg Met Lys Tyr Pro Glu Ile  
 675 680 685  
 Ser Tyr Gln Ile Ser Met Asp Ser Cys Pro Lys Pro Ser Ile Gly Gly  
 690 695 700  
 Thr  
 705

<210> 51  
 <211> 182  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 51  
 Leu Lys Glu Lys Arg Arg Asn Ile Val Tyr Leu Leu Val Ile Tyr Gln  
 1 5 10 15  
 Glu Ile Phe Trp Leu Thr Met Leu His Gln Pro Tyr Tyr Asp Lys Ile  
 20 25 30  
 Leu Thr Gly Asn Thr Ile Tyr Ile Pro Gly His Thr His Lys Asp Ser  
 35 40 45  
 Asn Lys Leu Phe Gln Lys Lys Ser Arg Ala Ile Trp Val Asp Glu Lys  
 50 55 60  
 Pro Phe Ser Leu Asp Cys Phe Ser Asn Val Phe Leu Ile Phe Val Ser  
 65 70 75 80  
 Leu Val Pro Ile Ala Gly Leu Val Arg Ala Tyr Gln Ile Lys Lys Ser  
 85 90 95  
 Leu Asp Arg Thr Thr Val Gln Ile Gly Tyr Ser Pro Ser Leu Ser Cys  
 100 105 110  
 Glu Gln Lys Glu Cys Val Glu Ala Phe Val Asn Gly Tyr Gly Leu Ile  
 115 120 125  
 Cys Ile Ser Ile Leu Gly Gly Leu Gly Ile Leu Val Pro Ile Leu Ile  
 130 135 140

Leu Val Val Leu Ser Leu Leu Leu Gly Ile Leu Met Leu Phe Ser  
 145 150 155 160  
 Leu Ser Thr Tyr Glu Ser Ile Lys Asn Tyr Ile Ser Lys His Ile Cys  
 165 170 175  
 Trp Lys Ser Asn Ala Thr  
 180

<210> 52  
 <211> 117  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 52  
 Val Ser Trp Phe Pro Ile Leu Gly Ile Phe Leu Ala Met Arg Tyr Ala  
 1 5 10 15  
 Lys His Gln Thr Asn Trp Asn Asp Glu Asn Val Lys Ala Asn Leu Gly  
 20 25 30  
 Tyr Leu Pro Ser Thr Asn Cys Lys Asn Ala Leu Cys Arg Met Ser Ser  
 35 40 45  
 Arg Leu Thr Ser Ser Ile Lys Thr Ala Gly Ile Leu Gly Gly Cys Gly  
 50 55 60  
 Ile Leu Leu Pro Ile Phe Leu Leu Leu Leu Ala Ile Leu Leu Ile Ser  
 65 70 75 80  
 Val Leu Phe Gln Leu Ile Met Leu Pro Phe Arg Leu Cys Cys Phe Ala  
 85 90 95  
 Leu Arg Gln Ser Val Ser Ser Asp Thr Val Thr Asn Leu Leu Leu Leu  
 100 105 110  
 Asn Asn Thr Leu Ala  
 115

<210> 53  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 53  
 Cys Phe Ala Tyr Leu Ile Ala Arg Asn Ile Pro Arg Met Gly Asn His  
 1 5 10 15  
 Glu Thr Tyr Ile His Pro Gly Val Leu Pro Ser Ser His Ala Gln Asp  
 20 25 30  
 Val Ser Arg Ser Thr Val Tyr Pro Ser Arg Ser Phe Ile Met Arg Arg  
 35 40 45  
 Met Leu Met Gly Trp Asn Phe Asn Arg Val Pro Ser Lys Ser Ser Glu  
 50 55 60  
 Gln Leu Met Asp Gly His Arg Ile Pro Leu Ile Phe Phe Gly Lys His  
 65 70 75 80  
 His Pro Thr Ile Ser Ile Leu Asn Val Asn Arg Phe Ser Trp Leu Ser  
 85 90 95  
 Ile Phe Tyr Asn Gly Glu Arg Gly Phe  
 100 105

<210> 54  
 <211> 235  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 54  
 Lys Met Leu Ser Val Cys Tyr Ser Asp Pro Cys Leu Ser Asp Phe Cys  
 1 5 10 15  
 Gln Gly Lys Arg Pro Leu Arg Ile Ala Ser Arg Asn Ser Asn Leu Ala  
 20 25 30

Lys	Ala	Gln	Val	His	Glu	Cys	Ile	Ser	Leu	Leu	Arg	Ser	Trp	Tyr	Pro
	35						40					45			
Lys	Leu	Trp	Phe	Gln	Leu	Ser	Thr	Thr	Glu	Thr	Thr	Gly	Asp	Arg	Glu
	50					55					60				
Lys	Lys	Ile	Pro	Leu	His	Leu	Val	Glu	Asn	Ser	Tyr	Phe	Phe	Thr	Asp
65					70					75					80
Gly	Val	Asp	Ala	Leu	Val	His	Lys	Gly	Val	Cys	Asp	Leu	Ala	Ile	His
				85					90					95	
Ser	Ala	Lys	Asp	Leu	Pro	Glu	Thr	Pro	Ser	Leu	Pro	Val	Val	Ala	Ile
			100					105					110		
Thr	Arg	Cys	Leu	His	Pro	Ala	Asp	Leu	Leu	Val	Tyr	Ala	Asp	His	Tyr
		115					120						125		
Val	His	Glu	Pro	Leu	Pro	Leu	Ser	Pro	Arg	Leu	Gly	Ser	Ser	Ser	Leu
	130					135					140				
Arg	Arg	Ser	Ala	Val	Leu	Lys	Gln	Leu	Phe	Pro	Gln	Gly	Gln	Ile	Leu
145					150					155					160
Asp	Ile	Arg	Gly	Thr	Ile	Glu	Glu	Arg	Leu	Asp	Gln	Leu	His	Arg	Gly
				165					170					175	
His	Tyr	Asp	Ala	Ile	Val	Leu	Ala	Lys	Ala	Ala	Ser	Leu	Arg	Leu	His
		180						185					190		
Leu	His	His	Ala	Tyr	Ser	Ile	Glu	Leu	Pro	Pro	Pro	Tyr	His	Ala	Leu
		195					200					205			
Gln	Gly	Ser	Leu	Ala	Ile	Thr	Ala	Lys	Asp	His	Ala	Gly	Lys	Trp	Lys
	210					215					220				
Gln	Leu	Phe	Thr	Pro	Ile	His	Cys	His	Ser	Ser					
225					230					235					

<210> 55  
 <211> 455  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 55

Ile	Arg	Met	Ala	Thr	Lys	Thr	Lys	Thr	Gln	Trp	Thr	Cys	Asn	Gln	Cys
1					5				10					15	
Gly	Ala	Thr	Ala	Pro	Lys	Trp	Leu	Gly	Gln	Cys	Pro	Gly	Cys	His	Asn
			20					25					30		
Trp	Asn	Ser	Leu	Val	Glu	Glu	Tyr	Val	Pro	Gln	Ala	Arg	Ser	Gly	Thr
	35					40						45			
Ser	Ser	Arg	Ser	Ser	Thr	Ser	Ala	Ile	Ala	Leu	Ser	Ser	Ile	Glu	Leu
	50					55					60				
Glu	Asn	Glu	Ser	Arg	Ile	Phe	Ile	Asp	His	Ala	Gly	Trp	Asp	Arg	Ile
65					70				75						80
Leu	Gly	Gly	Gly	Val	Val	Arg	Gly	Ser	Leu	Thr	Leu	Leu	Gly	Gly	Asp
				85					90					95	
Pro	Gly	Ile	Gly	Lys	Ser	Thr	Leu	Leu	Leu	Gln	Thr	Ala	Glu	Arg	Leu
			100					105					110		
Ala	Ser	Gln	Lys	Tyr	Lys	Val	Leu	Tyr	Val	Cys	Gly	Glu	Glu	Ser	Val
		115						120					125		
Thr	Gln	Thr	Ser	Leu	Arg	Ala	Lys	Arg	Leu	Asn	Ile	Ser	Ser	Pro	Leu
	130					135					140				
Ile	Tyr	Leu	Phe	Pro	Glu	Thr	Asn	Leu	Asp	Asn	Ile	Lys	Gln	Gln	Ile
145					150					155					160
Ala	Thr	Leu	Glu	Pro	Asp	Ile	Leu	Ile	Ile	Asp	Ser	Ile	Gln	Ile	Ile
				165					170					175	
Phe	Asn	Pro	Thr	Leu	Asn	Ser	Ala	Pro	Gly	Ser	Val	Ala	Gln	Val	Arg
			180					185					190		
Glu	Val	Thr	Tyr	Glu	Leu	Met	Gln	Ile	Ala	Lys	Ser	Ala	Gln	Ile	Thr
		195					200					205			
Thr	Phe	Ile	Ile	Gly	His	Val	Thr	Lys	Ser	Gly	Glu	Ile	Ala	Gly	Pro
210						215					220				



Lys Gln Phe Arg Val Leu Pro Val Tyr Gln Ser Thr Ala Val Thr Asp  
           195                          200                          205  
 Ala Gln Gly Asn Val Ser Tyr Gln Ile Gln Val Leu Val Asn Gln Glu  
           210                          215                          220  
 Val Trp Gly Glu Gly Asn Ala Ser Ser Lys Lys Glu Ala Glu Lys Ile  
 225                          230                          235                          240  
 Ala Ala Gln Gln Ala Leu Asp Thr Tyr Gly Asn Lys Asn Gln Asn Thr  
                           245                          250                          255  
 Met Asp Val

<210> 57  
 <211> 165  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 57  
 Cys Phe Trp Ile Cys Tyr Leu Ile Arg Ile Arg Met Arg Ser Ala Leu  
   1                          5                          10                          15  
 His Leu Gln His Leu Arg His Phe His Asn His Gly Ser Ile Leu Phe  
           20                          25                          30  
 Glu Asn Leu Leu Thr Ile Lys Asp Cys Phe Leu Leu Glu Thr Lys Leu  
           35                          40                          45  
 Gln Asn Phe Ile Ala Lys Ala Ser Lys Thr Ile Asp Thr Val Arg Trp  
   50                          55                          60  
 Arg Glu Asn Ile Phe Arg Ser Met Pro Glu Ile Tyr Thr Val Val Arg  
 65                          70                          75                          80  
 Lys Arg Arg Leu Asp Phe Phe Ala Ala Glu Leu Val His Arg Pro Lys  
           85                          90                          95  
 Leu Ser Leu Val Arg Asp Leu Trp Val Phe Pro Gly Glu Glu Ile Leu  
           100                          105                          110  
 Glu Gly Glu Glu Asp Cys Met Leu Phe Leu Leu Leu Ser Gly Asp Arg  
           115                          120                          125  
 Ala Gly Ser Gly Ile Phe Phe Thr Gly Pro Tyr Pro Ser Asp Leu Tyr  
   130                          135                          140  
 Glu Leu Glu Lys Gly Thr Thr Gly Leu Leu Leu Ala Phe Ser Ser Val  
 145                          150                          155                          160  
 Gly Ile Pro Val Ile  
                           165

<210> 58  
 <211> 610  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 58  
 Glu Phe Leu Lys Leu Ser Leu His Arg Ile Ser Leu Met Lys Glu Val  
   1                          5                          10                          15  
 Glu Gln Arg Ile Arg Ser Leu Tyr Asp Ala Val Thr Ala Glu Asn Ile  
           20                          25                          30  
 Cys Arg Trp Leu Ser Asn Asp Cys Thr Gln Gln Asp Ala Lys Thr Ile  
           35                          40                          45  
 Leu Gly Trp Leu Asp Thr Asp Pro Ala Gln Leu Glu Asp Leu Phe Gly  
   50                          55                          60  
 Ala Thr Leu Thr Phe Gly Thr Gly Gly Leu Arg Ser Leu Met Gly Ile  
 65                          70                          75                          80  
 Gly Thr Asn Arg Ile Asn Leu Phe Thr Ile Arg Arg Thr Thr Gln Gly  
           85                          90                          95  
 Leu Val Gln Val Leu Arg Ala His Leu Pro His Pro Gly Asp Pro Met  
           100                          105                          110

Arg Val Val Val Gly Cys Asp Thr Arg His Asn Ser Ile Glu Phe Ala  
 115 120 125  
 Gln Glu Thr Ala Lys Val Leu Ala Gly Asn Gly Cys Glu Val Phe Leu  
 130 135 140  
 Phe Gln Tyr Pro Glu Pro Leu Ala Leu Val Ser Phe Thr Val Arg Tyr  
 145 150 155 160  
 Glu Arg Ala Ile Gly Gly Val Met Ile Thr Ala Ser His Asn Pro Pro  
 165 170 175  
 Asn Tyr Asn Gly Tyr Lys Val Tyr Met Ala Ser Gly Gly Gln Val Leu  
 180 185 190  
 Pro Pro Leu Asp Gln Glu Ile Val Ala Ala Cys Ser Ala Val Asn Glu  
 195 200 205  
 Ile Leu Ser Val Pro Ser Ile Asp His Pro Asn Ile His Leu Ile Gly  
 210 215 220  
 Lys Glu Tyr Glu Ala Leu Tyr Arg Asp Thr Leu Lys Gln Leu Gln Leu  
 225 230 235 240  
 Tyr Pro Glu Ala Asn Arg Ile Ser Gly Arg Ser Leu Ser Ile Ser Tyr  
 245 250 255  
 Ser Pro Leu His Gly Thr Gly Ile Ser Leu Val Pro His Val Leu Lys  
 260 265 270  
 Asp Trp Gly Phe Leu Ser Val His Leu Val Glu Lys Gln Ala Ile Gly  
 275 280 285  
 Asp Gly Asp Phe Pro Thr Val Gln Leu Pro Asn Pro Glu Asp Pro Glu  
 290 295 300  
 Ala Leu Thr Leu Gly Ile Glu Gln Met Leu Ala Asn Asp Asp Asp Leu  
 305 310 315 320  
 Phe Ile Ala Thr Asp Pro Asp Ala Asp Arg Val Gly Val Val Cys Leu  
 325 330 335  
 Glu Asp Gly Gln Pro Tyr Arg Phe Asn Gly Asn Gln Met Ala Ser Leu  
 340 345 350  
 Leu Ala Asp His Ile Leu Gly Ala Trp Ser Lys Thr Arg His Leu Gly  
 355 360 365  
 Glu His Asp Lys Leu Val Lys Ser Leu Val Thr Thr Glu Met Leu Ser  
 370 375 380  
 Ala Ile Ala Lys His Tyr His Val Asp Leu Ile Asn Val Gly Thr Gly  
 385 390 395 400  
 Phe Lys Tyr Ile Gly Glu Lys Ile Glu Ser Trp Arg Asn Ser Thr Asn  
 405 410 415  
 Lys Phe Val Phe Gly Ala Glu Glu Ser Tyr Gly Cys Leu Tyr Gly Thr  
 420 425 430  
 His Val Glu Asp Lys Asp Ala Ile Ile Ala Ser Ala Leu Ile Ala Glu  
 435 440 445  
 Ala Ala Leu Gln Gln Lys Leu Gln Gly Lys Thr Leu Cys Asp Ala Leu  
 450 455 460  
 Leu Ser Leu Tyr Glu Thr Tyr Gly Tyr Phe Ala Asn Lys Thr Glu Ser  
 465 470 475 480  
 Val Val Phe Ser Ala Lys Thr Asp Glu Gln Glu Ile Arg Lys Lys Leu  
 485 490 495  
 Ser His Leu Glu Glu Ile Ser Ser Ala Asn Phe Phe Ser Gly Lys Tyr  
 500 505 510  
 Gln Val Glu Lys Phe Glu Asn Tyr Lys Gln Gly Ile Gly Phe Asn Leu  
 515 520 525  
 Leu Ser Lys Asp Ser Tyr Ala Leu Thr Leu Pro Lys Thr Ser Met Leu  
 530 535 540  
 Cys Tyr Tyr Phe Ser Gly Gly Gly Arg Val Ile Ile Arg Pro Ser Gly  
 545 550 555 560  
 Thr Glu Pro Lys Ile Lys Phe Tyr Phe Glu Met Ser Thr His Tyr Pro  
 565 570 575  
 Glu Arg Val Thr Asp Lys Glu Ile Gln Lys Gln Arg Glu Ala Glu Ser  
 580 585 590



Phe Gln His Leu Asp Asp Phe Ile Phe Asp Phe Lys Glu Lys Phe Ser  
595 600 605  
Asn Leu  
610

<210> 59  
<211> 214  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 59  
Ile Leu Lys Arg Tyr Val Val Met Ser Phe Val Pro Tyr Ser Leu Pro  
1 5 10 15  
Glu Leu Pro Tyr Asp Tyr Asp Ala Leu Glu Pro Val Ile Ser Ser Glu  
20 25 30  
Ile Met Ile Leu His His Gln Lys His His Gln Ile Tyr Ile Asn Asn  
35 40 45  
Leu Asn Ala Ala Leu Lys Arg Leu Asp Ala Ala Glu Thr Gln Gln Asn  
50 55 60  
Leu Asn Glu Leu Ile Ala Leu Glu Pro Ala Leu Arg Phe Asn Gly Gly  
65 70 75 80  
Gly His Ile Asn His Ser Leu Phe Trp Glu Thr Leu Ala Pro Ile Asp  
85 90 95  
Gln Gly Gly Gly Gln Pro Pro Lys His Glu Leu Leu Ser Leu Ile Glu  
100 105 110  
Arg Phe Trp Gly Thr Met Asp Asn Phe Leu Lys Lys Leu Ile Glu Val  
115 120 125  
Ala Ala Gly Val Gln Gly Ser Gly Trp Ala Trp Leu Gly Phe Cys Pro  
130 135 140  
Ala Lys Gln Glu Leu Val Leu Gln Ala Thr Ala Asn Gln Asp Pro Leu  
145 150 155 160  
Glu Pro Leu Thr Gly Lys Leu Pro Leu Leu Gly Val Asp Val Trp Glu  
165 170 175  
His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Met Asp Tyr Leu Lys  
180 185 190  
Ala Phe Pro Gln Ile Ile Asn Trp Gly His Ile Glu Asn Arg Phe Ser  
195 200 205  
Glu Ile Ile Ser Ser Lys  
210

<210> 60  
<211> 312  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 60  
Ile Arg Trp Leu Val Arg Leu Phe Ser Tyr Asp Lys Pro Lys Ile Lys  
1 5 10 15  
Val Gln Lys Ile Lys Ala Asp Gly Phe Ser Gly Trp Leu Lys Cys Asn  
20 25 30  
His Cys His Glu Met Ile His Ala Asn Glu Leu Gly Gln Asn Tyr Asn  
35 40 45  
Cys Cys Pro Lys Cys Ser Tyr His Tyr Arg Ile Thr Ala Ile Glu Arg  
50 55 60  
Val Lys Leu Leu Ala Asp Lys Asp Ser Trp Arg Pro Leu Tyr Thr Asp  
65 70 75 80  
Leu Lys Ser Gln Asp Pro Leu Glu Phe Ile Asp Thr Asp Thr Tyr Ala  
85 90 95  
Asn Arg Leu Glu Lys Ala Arg Lys Asn Thr Thr Glu Ser Glu Gly Val  
100 105 110

Ile	Val	Gly	Ile	Cys	Thr	Ile	Gly	Leu	His	Pro	Val	Ala	Leu	Ala	Val
		115					120					125			
Met	Asp	Phe	Asn	Phe	Met	Ala	Gly	Ser	Met	Gly	Ala	Val	Val	Gly	Glu
		130				135					140				
Lys	Leu	Thr	Arg	Leu	Ile	Glu	Glu	Ala	Ile	Glu	Thr	Arg	Leu	Pro	Val
		145			150					155					160
Ile	Ile	Val	Ser	Ala	Ser	Gly	Gly	Ala	Arg	Met	Gln	Glu	Ser	Val	Phe
				165					170					175	
Ser	Leu	Met	Gln	Met	Val	Lys	Thr	Ser	Ala	Ala	Leu	Ala	Lys	Leu	His
			180					185						190	
Glu	Ala	Gly	Leu	Pro	Tyr	Ile	Ser	Val	Leu	Thr	Asn	Pro	Thr	Ser	Gly
		195					200					205			
Gly	Val	Thr	Ala	Ser	Phe	Ala	Ala	Leu	Gly	Asp	Ile	Ile	Ile	Ala	Glu
		210				215					220				
Pro	Lys	Ala	Leu	Ile	Cys	Phe	Ala	Gly	Pro	Arg	Val	Val	Ala	Gln	Val
		225			230					235					240
Ile	Gly	Glu	Asp	Leu	Pro	Glu	Gly	Ala	Gln	Lys	Ser	Glu	Phe	Leu	Leu
			245						250					255	
Glu	His	Gly	Met	Ile	Asp	Lys	Ile	Val	Glu	Arg	Lys	Glu	Leu	Lys	Thr
			260					265						270	
Thr	Leu	Gln	Thr	Leu	Leu	Asp	Tyr	Phe	Leu	Ala	Gln	Glu	Tyr	Thr	Gly
			275				280					285			
Gly	Lys	Ser	Lys	Ala	Pro	Arg	Asp	Leu	Ser	Lys	Arg	Leu	Lys	Glu	Ile
		290				295					300				
Phe	Leu	Leu	Thr	Asp	Asp	Ser	Glu								
		305			310										

<210> 61  
 <211> 163  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ile	Lys	His	His	Thr	Ala	Ser	Cys	Asn	Asp	Asn	Ile	Ile	Cys	Asn	Ala
					5				10					15	
Ile	Leu	Met	Thr	Val	Phe	Cys	Glu	Leu	Asp	Ser	Gly	Gly	Glu	Leu	Pro
			20					25					30		
Glu	Tyr	Thr	Thr	Pro	Gly	Ala	Ala	Gly	Ala	Asp	Leu	Arg	Ala	Asn	Ile
		35				40					45				
Glu	Glu	Pro	Ile	Ala	Leu	Leu	Pro	Gly	Gln	Arg	Ala	Leu	Ile	Pro	Thr
		50				55					60				
Gly	Ile	Lys	Ala	Glu	Ile	Pro	Glu	Gly	Tyr	Glu	Leu	Gln	Val	Arg	Pro
					70				75					80	
Arg	Ser	Gly	Leu	Ala	Leu	Lys	His	Gly	Ile	Thr	Val	Leu	Asn	Ser	Pro
				85					90					95	
Gly	Thr	Ile	Asp	Ser	Asp	Tyr	Arg	Gly	Glu	Ile	Arg	Val	Ile	Leu	Ile
			100					105					110		
Asn	Phe	Gly	Asp	Ser	Thr	Phe	Ile	Ile	Glu	Pro	Lys	Met	Arg	Ile	Ala
		115					120					125			
Gln	Val	Val	Leu	Ser	Pro	Val	Val	Gln	Ala	Thr	Phe	Val	Val	Lys	Gln
		130				135					140				
Glu	Ser	Leu	Ala	Glu	Thr	Ala	Arg	Gly	Ser	Gly	Gly	Phe	Gly	His	Thr
		145				150				155					160
Gly	Ala	Ser													

<210> 62  
 <211> 175  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 62

Arg	Lys	Leu	Pro	Glu	Glu	Val	Glu	Val	Leu	Val	Ile	Leu	Glu	Gln	Ala
1				5					10					15	
Lys	Met	Pro	Ser	Tyr	Cys	Gln	Asn	Gln	Gln	Asp	Phe	Ser	Leu	Phe	Ser
			20					25					30		
Leu	Leu	Ser	Pro	Arg	Leu	Val	Met	Phe	Leu	Gly	Lys	His	Ser	Arg	Asp
		35					40					45			
Glu	Ile	Leu	Gln	Asp	Leu	Thr	Asp	Leu	Val	Asp	Ala	Ala	Gly	Leu	Leu
	50					55					60				
Glu	Asp	Lys	Gln	Ala	Phe	Phe	Asp	Ala	Leu	Val	Arg	Arg	Glu	Asn	Ile
65					70					75					80
Met	Ser	Thr	Gly	Ile	Gly	Met	Gly	Val	Ala	Ile	Pro	His	Gly	Lys	Leu
				85					90					95	
Glu	Ser	Cys	Ser	Asn	Phe	Phe	Ile	Ala	Ile	Gly	Ile	His	Thr	Gln	Gly
			100					105					110		
Ile	Leu	Trp	Asp	Ala	Ile	Asp	Gly	Ala	Leu	Val	Arg	Leu	Val	Phe	Leu
		115					120						125		
Ile	Gly	Gly	Pro	Glu	Asn	Ala	Gln	Ala	Glu	Tyr	Leu	Lys	Leu	Leu	Ser
	130					135					140				
Thr	Leu	Thr	Leu	Ser	Leu	Arg	Glu	Glu	Ser	Arg	Arg	Gln	Gln	Leu	Leu
145					150					155					160
Gln	Val	Asn	Thr	Ile	Glu	Glu	Val	Met	Asn	Val	Phe	Val	Gly	Met	
				165					170					175	

<210> 63  
 <211> 236  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 63

Arg	Ser	His	Glu	Cys	Ile	Cys	Gly	Asp	Val	Lys	Met	Asp	Leu	Lys	Leu
1				5					10					15	
Asp	Glu	Val	Ala	Ser	Leu	Leu	Asp	Val	Ser	Glu	His	Thr	Val	Leu	Gln
			20					25					30		
Trp	Leu	Lys	Glu	Gly	Ala	Ile	Pro	Ser	Tyr	Ser	Met	Asn	Asn	Glu	Tyr
		35					40					45			
Arg	Phe	Ser	Arg	Glu	Glu	Ile	Glu	Asn	Trp	Leu	Leu	His	Asn	Gln	Ala
	50					55					60				
Leu	Met	Ile	Gln	Glu	Arg	Gly	Glu	Asp	Lys	Glu	Ala	Leu	Lys	Asp	Leu
65					70					75					80
Ser	Leu	Lys	Tyr	Ser	Leu	Tyr	Lys	Ala	Ile	His	Arg	Gly	Gly	Val	Leu
				85					90					95	
Cys	Asp	Val	Val	Val	His	Ser	Lys	Glu	Glu	Ala	Leu	Gln	Tyr	Ala	Ser
			100					105					110		
Lys	Tyr	Ile	Ala	Gln	Lys	Phe	Gln	Leu	Asp	Glu	Ser	Val	Leu	Phe	Glu
		115					120					125			
Met	Leu	Ser	His	Arg	Glu	Asn	Leu	Met	Ser	Thr	Gly	Ile	Gly	Glu	Gly
	130					135					140				
Ile	Ala	Leu	Pro	His	Ala	Lys	Asp	Phe	Leu	Ile	Asn	Ala	Tyr	Tyr	Asp
145					150					155					160
Ile	Val	Val	Pro	Met	Phe	Leu	Ala	Glu	Pro	Ile	Glu	Tyr	Gly	Ala	Leu
				165					170					175	
Asp	Gly	Lys	Pro	Val	Gly	Ile	Leu	Phe	Phe	Leu	Phe	Ala	Cys	Gln	Asp
			180					185					190		
Lys	Ser	His	Leu	Asn	Leu	Val	Asn	Lys	Ile	Val	His	Leu	Gly	Met	Ser
		195					200					205			
Leu	Asn	Ala	Arg	Ser	Phe	Phe	Lys	Asn	Tyr	Pro	Asn	Lys	Asp	Gln	Leu
	210					215					220				
Leu	Ala	Tyr	Val	Lys	Glu	Trp	Glu	Ser	Gln	Thr	His				
225					230					235					

<210> 64  
 <211> 480  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 64  
 Lys Lys Ser Phe Cys Cys Tyr Gly Asp Pro His Arg Leu Pro Gly Asp  
 1 5 10 15  
 Cys Ser Arg Met Met Ser Ser Lys Arg Thr Ser Lys Ile Ala Val Leu  
 20 25 30  
 Ser Ile Leu Leu Thr Phe Thr His Ser Ile Gly Phe Ala Asn Ala Asn  
 35 40 45  
 Ser Ser Val Gly Leu Gly Thr Val Tyr Ile Thr Ser Glu Val Val Lys  
 50 55 60  
 Lys Pro Gln Lys Gly Ser Glu Arg Lys Gln Ala Lys Lys Glu Pro Arg  
 65 70 75 80  
 Ala Arg Lys Gly Tyr Leu Val Pro Ser Ser Arg Thr Leu Ser Ala Arg  
 85 90 95  
 Ala Gln Lys Met Lys Asn Ser Ser Arg Lys Glu Ser Ser Gly Gly Cys  
 100 105 110  
 Asn Glu Ile Ser Ala Asn Ser Thr Pro Arg Ser Val Lys Leu Arg Arg  
 115 120 125  
 Asn Lys Arg Ala Glu Gln Lys Ala Ala Lys Gln Gly Phe Ser Ala Phe  
 130 135 140  
 Ser Asn Leu Thr Leu Lys Ser Leu Leu Pro Lys Leu Pro Ser Lys Gln  
 145 150 155 160  
 Lys Thr Ser Ile His Glu Arg Glu Lys Ala Thr Ser Arg Phe Val Asn  
 165 170 175  
 Glu Ser Gln Leu Ser Ser Ala Arg Lys Arg Tyr Cys Thr Pro Ser Ser  
 180 185 190  
 Ala Ala Pro Ser Leu Phe Leu Glu Thr Glu Ile Val Arg Ala Pro Val  
 195 200 205  
 Glu Arg Thr Lys Glu Leu Gln Asp Asn Glu Ile His Ile Pro Val Val  
 210 215 220  
 Gln Val Gln Thr Asn Pro Lys Glu Gln Asn Thr Lys Thr Thr Lys Gln  
 225 230 235 240  
 Leu Ala Ser Gln Ala Ser Ile Gln Gln Ser Glu Gly Thr Glu Gln Ser  
 245 250 255  
 Leu Arg Glu Leu Ala Gln Gly Ala Ser Leu Pro Val Leu Val Arg Ser  
 260 265 270  
 Asn Pro Glu Val Ser Val Gln Arg Gln Lys Glu Glu Leu Leu Lys Glu  
 275 280 285  
 Leu Val Ala Glu Arg Arg Gln Cys Lys Arg Lys Ser Val Arg Gln Ala  
 290 295 300  
 Leu Glu Ala Arg Ser Leu Thr Lys Lys Val Ala Arg Gly Gly Ser Val  
 305 310 315 320  
 Thr Ser Thr Leu Arg Tyr Asp Pro Glu Lys Ala Ala Glu Ile Lys Ser  
 325 330 335  
 Arg Arg Asn Cys Lys Val Ser Pro Glu Ala Arg Glu Gln Lys Tyr Ser  
 340 345 350  
 Ser Cys Lys Arg Asp Ala Arg Ala Asn Gly Lys Gln Asp Lys Thr Thr  
 355 360 365  
 Pro Ser Glu Asp Ala Ser Gln Glu Glu Gln Gln Thr Gly Ala Gly Leu  
 370 375 380  
 Val Arg Lys Thr Pro Lys Ser Gln Val Ala Ser Asn Ala Gln Asn Phe  
 385 390 395 400  
 Tyr Arg Asn Ser Lys Asn Thr Asn Ile Asp Ser Tyr Leu Thr Ala Asn  
 405 410 415  
 Gln Tyr Ser Cys Ser Ser Glu Glu Thr Asp Trp Pro Cys Ser Ser Cys  
 420 425 430

Val Ser Lys Arg Arg Thr His Asn Ser Ile Ser Val Cys Thr Met Val  
435 440 445  
Val Thr Val Ile Ala Met Ile Val Gly Ala Leu Ile Ile Ala Asn Ala  
450 455 460  
Thr Glu Ser Gln Thr Thr Ser Asp Pro Thr Pro Pro Thr Pro Thr Pro  
465 470 475 480

<210> 65  
<211> 53  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 65  
Pro Met Tyr Ala Asn Cys Lys His Asn Cys Leu Cys Leu Tyr Asp Phe  
1 5 10 15  
Ser Arg His Arg Ser Pro Pro Gly Leu Pro Leu Thr Phe Thr Pro Pro  
20 25 30  
Tyr Ser Phe Thr Leu Gly Ile Phe Leu Gly Arg Cys Leu Ser Thr Ser  
35 40 45  
Asn Ile Val Leu Leu  
50

<210> 66  
<211> 79  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 66  
Leu Val Met Thr Lys Ile Gln Cys Ser Ala Gln Tyr Tyr Arg Ser Arg  
1 5 10 15  
Pro Ala Glu Arg Ala Gln Thr Pro Pro Gln Pro Phe Leu Ala Arg Asp  
20 25 30  
Arg Ala Asp Phe Trp Glu Arg His Pro Arg Phe Ser Ala Cys Cys Arg  
35 40 45  
Val Leu Leu Leu Val Ala Trp Val Val Leu Ala Leu Leu Phe Leu Phe  
50 55 60  
Val Met Leu Leu Pro Leu Ala Ala Gly Ser Tyr Leu Leu Ala Phe  
65 70 75

<210> 67  
<211> 590  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 67  
Tyr Asp Tyr Tyr Lys Tyr Asn Met Phe Phe Lys Lys Asn Tyr Met Thr  
1 5 10 15  
Asp Phe Pro Thr His Phe Lys Gly Pro Lys Leu Asn Pro Ile Lys Val  
20 25 30  
Asn Pro Asn Phe Phe Glu Arg Asn Pro Lys Val Ala Arg Val Leu Gln  
35 40 45  
Ile Thr Ala Val Val Leu Gly Ile Ile Ala Leu Leu Ser Gly Ile Val  
50 55 60  
Leu Ile Ile Gly Thr Pro Leu Gly Ala Pro Ile Ser Met Ile Leu Gly  
65 70 75 80  
Gly Cys Leu Leu Ala Ser Gly Gly Ala Leu Phe Val Gly Gly Thr Ile  
85 90 95  
Ala Thr Ile Leu Gln Ala Arg Asn Ser Tyr Lys Lys Ala Val Asn Gln  
100 105 110  
Lys Lys Leu Ser Glu Pro Leu Met Glu Arg Pro Glu Leu Lys Ala Leu  
115 120 125

Asp	Tyr	Ser	Leu	Asp	Leu	Lys	Glu	Val	Trp	Asp	Leu	His	His	Ser	Val
130						135					140				
Val	Lys	His	Leu	Lys	Lys	Leu	Asp	Leu	Asn	Leu	Ser	Lys	Thr	Gln	Arg
145					150					155					160
Glu	Val	Leu	Asn	Gln	Ile	Lys	Ile	Asp	Asp	Glu	Gly	Pro	Ser	Leu	Gly
				165					170						175
Glu	Cys	Ala	Ala	Met	Ile	Ser	Glu	Asn	Tyr	Asp	Ala	Cys	Leu	Lys	Met
				180				185					190		
Leu	Ala	Tyr	Arg	Glu	Glu	Leu	Leu	Lys	Glu	Gln	Thr	Gln	Tyr	Gln	Glu
		195					200					205			
Thr	Arg	Phe	Asn	Gln	Asn	Leu	Thr	His	Arg	Asn	Lys	Val	Leu	Leu	Ser
						215					220				
Ile	Leu	Ser	Arg	Ile	Thr	Asp	Asn	Ile	Ser	Lys	Ala	Gly	Gly	Val	Phe
225					230					235					240
Ser	Leu	Lys	Phe	Ser	Thr	Leu	Ser	Ser	Arg	Met	Ser	Arg	Ile	His	Thr
				245					250					255	
Thr	Thr	Thr	Val	Ile	Leu	Ala	Leu	Ser	Ala	Val	Val	Ser	Val	Met	Val
			260					265					270		
Val	Ala	Ala	Leu	Ile	Pro	Gly	Gly	Ile	Leu	Ala	Leu	Pro	Ile	Leu	Leu
			275				280					285			
Ala	Val	Ala	Ile	Ser	Ala	Gly	Val	Ile	Val	Thr	Gly	Leu	Ser	Tyr	Leu
			290			295					300				
Val	Arg	Gln	Ile	Leu	Ser	Asn	Thr	Lys	Arg	Asn	Arg	Gln	Asp	Phe	Tyr
305					310					315					320
Lys	Asp	Phe	Val	Lys	Asn	Val	Asp	Ile	Glu	Leu	Leu	Asn	Gln	Thr	Val
				325					330					335	
Thr	Leu	Gln	Arg	Phe	Leu	Phe	Glu	Met	Leu	Lys	Gly	Val	Leu	Lys	Glu
			340					345					350		
Glu	Glu	Glu	Val	Ser	Leu	Glu	Gly	Gln	Asp	Trp	Tyr	Thr	Gln	Tyr	Ile
			355				360						365		
Thr	Asn	Ala	Pro	Ile	Glu	Lys	Arg	Leu	Ile	Glu	Glu	Ile	Arg	Val	Thr
			370			375					380				
Tyr	Lys	Glu	Ile	Asp	Ala	Gln	Thr	Lys	Lys	Met	Lys	Thr	Asp	Leu	Glu
385					390					395					400
Phe	Leu	Glu	Asn	Glu	Val	Arg	Ser	Gly	Arg	Leu	Ser	Val	Ala	Ser	Pro
			405						410					415	
Ser	Glu	Asp	Pro	Ser	Glu	Thr	Pro	Ile	Phe	Thr	Gln	Gly	Lys	Glu	Phe
			420					425					430		
Ala	Lys	Leu	Arg	Arg	Gln	Thr	Ser	Gln	Asn	Ile	Ser	Thr	Ile	Tyr	Gly
			435				440					445			
Pro	Asp	Asn	Glu	Asn	Ile	Asp	Pro	Glu	Phe	Ser	Leu	Pro	Trp	Met	Pro
			450			455					460				
Lys	Lys	Glu	Glu	Glu	Ile	Asp	His	Ser	Leu	Glu	Pro	Val	Thr	Lys	Leu
465					470					475					480
Glu	Pro	Gly	Ser	Arg	Glu	Glu	Leu	Leu	Leu	Val	Glu	Gly	Val	Asn	Pro
				485					490					495	
Thr	Leu	Arg	Glu	Leu	Asn	Met	Arg	Ile	Ala	Leu	Leu	Gln	Gln	Gln	Leu
			500					505					510		
Ser	Ser	Val	Arg	Lys	Trp	Arg	His	Pro	Arg	Gly	Glu	His	Tyr	Gly	Asn
			515				520					525			
Val	Ile	Tyr	Ser	Asp	Thr	Glu	Leu	Asp	Arg	Ile	Gln	Met	Leu	Glu	Gly
			530			535					540				
Ala	Phe	Tyr	Asn	His	Leu	Arg	Glu	Ala	Gln	Glu	Glu	Ile	Thr	Gln	Ser
545					550					555					560
Leu	Gly	Asp	Leu	Val	Asp	Ile	Gln	Asn	Arg	Ile	Leu	Gly	Ile	Ile	Val
				565					570					575	
Glu	Gly	Asp	Ser	Asp	Ser	Arg	Thr	Glu	Glu	Glu	Pro	Gln	Glu		
			580					585					590		

<210> 68  
 <211> 580  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 68  
 Gly Val Tyr Met Ala Asn Pro Thr Gln Ser Arg Pro Pro Ser Pro Glu  
 1 5 10 15  
 Ile Ser Ile Glu Glu Leu Glu Leu Gln Glu Leu Ala Gly Ser Ser Asn  
 20 25 30  
 Thr Glu Thr Ile Ser Asn Thr Pro Pro Ser Cys Ala Ala Thr Ala  
 35 40 45  
 Glu Glu Val Ser Leu Phe Ile Glu Gly Gly Arg Arg Asn Ser Glu Asp  
 50 55 60  
 Glu Glu Gly Pro Leu Gly Ser Cys Glu Val Tyr Asp Val Val Cys Ile  
 65 70 75 80  
 Thr Asn Gln Gly Asp Pro Glu Val Arg Asp His Glu Val Arg Val Met  
 85 90 95  
 Tyr Ile Asn Gly Ser Gly Arg Thr Gln His Glu Gly Ile Leu Asp Ala  
 100 105 110  
 Met Asn Ile Cys Asp Leu Arg Gly Glu Pro Val Arg Phe Ile His Asn  
 115 120 125  
 Ser Gly Tyr Gly Leu Gly Ser Cys Phe Leu Gly Ile Arg Asn Arg Ile  
 130 135 140  
 Pro Pro Arg Asp Asn Val Ile Ser Gln Ala Ile Gln Ala Arg Trp Asn  
 145 150 155 160  
 Glu Phe Phe Ile Phe Ala Glu Asn Ala Asn Arg Asp Tyr Ile Val Leu  
 165 170 175  
 Phe Ser Gly Asn Gly Gly Leu Tyr Leu Gln Val Ala Leu Asp Asn Ser  
 180 185 190  
 Ile Tyr Ser His His Ile Leu Cys Val Gly Ile Gly Ser Ser Tyr Tyr  
 195 200 205  
 Ile Gln Gly Asn Tyr Arg Val His Asn Tyr Arg Val Thr Gly Asp Trp  
 210 215 220  
 Thr Thr Leu Leu Asp Arg Gly Ala Thr Ala Val Asn Thr Thr Thr  
 225 230 235 240  
 Leu Pro Tyr Ala Asp Ser Ala Glu Gly Leu Phe Leu Pro Ser Val Arg  
 245 250 255  
 Cys Pro Ser Tyr Gln Trp Ala Leu Arg Cys Gly Glu Gln Cys Leu Ile  
 260 265 270  
 Met Asp Asn Asn Gln Gln Val Gly Phe Arg Pro Gln Asp Ser Ser Ser  
 275 280 285  
 Glu Ile Ala Leu Val Val Asn Leu Asn Gln Asp His Ser Thr Trp Thr  
 290 295 300  
 Arg Leu Ile Glu Trp Ile Asp Arg Gly Asp Ser Gln Ala Val Leu Glu  
 305 310 315 320  
 Leu Asn Pro Gln Pro Ser His Cys Arg Asp Ile Ala Leu Thr Ala Leu  
 325 330 335  
 Tyr Ala Thr Thr Arg Ile Ser Ser Leu Leu Gln Glu Cys Leu Met Ile  
 340 345 350  
 Ser Val Thr Tyr Ala Pro Glu Val Phe Val Thr Tyr Ala Ile Val Thr  
 355 360 365  
 Gly Tyr Ser Ile Met Thr Leu Arg Tyr Phe Ile Leu Leu Leu Thr Asn  
 370 375 380  
 Arg Pro Gly Cys Arg Arg His Phe Arg Val Leu Arg Leu Ala Ala Leu  
 385 390 395 400  
 Gly Leu Gln Ser Leu Gly Phe Leu Thr Val Leu Leu Asp His Ile Asn  
 405 410 415  
 Val Thr Arg Arg Val Asn Arg Arg Pro Pro Leu Ile Ser Val Ile Phe  
 420 425 430



Cys Thr Ala Ser Phe Ala Thr Gly Ser Phe Ile Tyr Val Asp Leu Thr  
 435 440 445  
 Arg Met Phe Phe Thr Ser Leu Arg Ser Arg Leu Gln Leu Phe Val Gln  
 450 455 460  
 Arg Arg Leu Thr Gly Arg Gly Leu Pro Leu Arg Arg Val Phe Val Asn  
 465 470 475 480  
 His Leu Asp Ser Leu Arg Phe Ser Gln Asn Ala Leu Ile Thr Phe His  
 485 490 495  
 Gly Gly Leu Phe Met Pro Leu Ile Ile Gly Phe Phe Asn Gln Leu Val  
 500 505 510  
 Ile Gln Val Pro Arg Val Val Ile Arg Pro Asn Thr Thr Ala Val Tyr  
 515 520 525  
 Asp Leu Asn Gln Thr Ser Gln Glu Ala Trp Asp Ser Gly Asp Val Leu  
 530 535 540  
 Ala Ile Gly Gln Thr Ile Asn Phe Leu Leu Cys Met Ile Leu Leu Val  
 545 550 555 560  
 Ile Asn Thr Phe Phe Phe Val Arg Ser Val Arg Arg Asn Leu His Arg  
 565 570 575  
 Arg Pro His Arg  
 580

<210> 69  
 <211> 378  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 69  
 Lys Gly Ser Gly Tyr Ser Tyr Arg Gly Pro Pro Met Ala Val Glu Gly  
 1 5 10 15  
 Arg Val Asn Ser Ser Gln Ala Leu Asn Gln Asp Cys Gln Glu Val Leu  
 20 25 30  
 Ala Asn Lys Gln Ser Lys Gly Leu Leu Arg Cys Arg Ile Leu Ser Ile  
 35 40 45  
 Val Val Ala Val Ile Thr Phe Ile Ala Gly Val Val Leu Ile Ala Leu  
 50 55 60  
 Thr Leu Ala Ser Ile Leu Thr Ser Val Pro Tyr Leu Ala Leu Gly Val  
 65 70 75 80  
 Phe Leu Leu Ile Val Thr Leu Gly Cys Ile Ile Phe Ala Leu Cys Ser  
 85 90 95  
 Glu Lys Ile Lys Lys Val Pro Pro Thr Pro Ile Ser His Lys Glu Glu  
 100 105 110  
 Ile Ile Ala Trp Phe Glu Glu Arg Lys Asn Ile Asp Met Glu Lys Glu  
 115 120 125  
 Lys Glu Asp Pro Glu His Phe Gly Arg Thr Ala Thr Asp Ile Pro Met  
 130 135 140  
 Arg Ser Ala Leu Asp Gln Phe Asn His Ser Cys His His Ile His Glu  
 145 150 155 160  
 Ser Pro Ala Leu Thr Glu Thr Tyr Arg Ser His Gln Asp Val Leu Leu  
 165 170 175  
 Phe Lys Asp Trp Cys Pro Val Thr Leu Pro Asp Val Thr Ser Glu Glu  
 180 185 190  
 Glu Val Leu Ile Arg Ser Val Val Gly Ser Tyr Leu Leu Met Glu Ala  
 195 200 205  
 Cys Val Pro Lys Val Ser Met Leu Ile Asp Glu Leu His Asn Lys Leu  
 210 215 220  
 Lys Ser Pro Ser Glu Arg Glu Cys Leu Phe Ile Asp Lys Lys Thr Leu  
 225 230 235 240  
 Gln Arg Lys Ala Ser Phe Leu Phe Thr Gln Lys Asp Leu Ala Thr Phe  
 245 250 255  
 Phe Leu Ala Tyr Thr Arg Val Asn Asp Gly His Leu Ala Pro Phe Arg  
 260 265 270

Ala Gly Ala Lys Trp Ile Leu Ile His Tyr Val Arg Leu Arg Arg Gln  
275 280 285  
His Asn Gln Asn Asp Phe Phe Thr Pro Gly His Ser Cys Tyr Tyr Ala  
290 295 300  
Arg Leu Ala Phe Asn Gln Thr Gln Arg Leu Tyr His Gln Leu Phe Asn  
305 310 315 320  
Val Glu Lys Leu Arg Ser Ile Tyr Ala Asn Met Asp Lys Asp Pro Leu  
325 330 335  
Cys His Pro Trp Ala Phe Ile Pro Ile Tyr Asp Leu Leu Lys Thr Glu  
340 345 350  
Asp His Gly Asp Gly Phe Leu Glu Gln Gln Glu Asp Arg Glu Tyr Pro  
355 360 365  
Ser Arg Ala Ala Gln Asp Gln Phe Trp Gly  
370 375

<210> 70  
<211> 193  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 70  
Ser Phe Met Ile Lys Lys Phe Phe Ile Tyr Ser Leu Ile Phe Ser Cys  
1 5 10 15  
Ser Phe Ser Ala Pro Leu Lys Gly Ile Cys Asn Glu Asp Val Ser Ser  
20 25 30  
Gln Ser Arg Ile Glu Glu Asp Pro Glu Val Leu Ile Thr Gln Leu Asn  
35 40 45  
Glu Leu Ile Glu Thr Pro Ile Glu Glu Gly Lys Glu Ile Arg Asn Glu  
50 55 60  
Leu Gln Ala Ile Ser Asp Gly Gln Lys Ser Ser Glu Glu Ile Glu Glu  
65 70 75 80  
Ser Cys Gly Thr Ser Asp Ser Glu Gly Leu Ser Glu Lys Thr Asp Lys  
85 90 95  
Glu Ser Ser Asn Glu Tyr Val Leu Asp Phe Phe Asp Ser Met Val Gln  
100 105 110  
Arg Leu Glu Gly Ile Ser Lys Met Cys Gln Ser Gly Gln Val Ala Gln  
115 120 125  
Ile Ile Asp Cys Phe Asn Arg Glu Phe Asp Ile Arg Asn Arg Glu Leu  
130 135 140  
Glu Leu Lys Asn Arg Glu Leu Glu Leu Arg Glu Lys Asp Leu Glu Phe  
145 150 155 160  
Lys Lys Ser Ile Leu Asp Trp Asn Lys Glu Lys Val Ser Arg Glu Leu  
165 170 175  
Ala Phe Gln Arg Glu Gln Asp Ile Lys Gln Thr Leu Met Leu Leu Lys  
180 185 190  
Lys

<210> 71  
<211> 632  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 71  
Leu Asn Phe Leu Tyr Val Tyr Leu Leu Ile Phe Asn Leu Gly Ile Met  
1 5 10 15  
Thr Thr Pro Pro Ser Arg Ser Ser Pro Pro Pro Tyr Asp Trp  
20 25 30  
Ile Glu Leu Gln Asp Leu Gly Asn Thr Asn Asn Asn Ser Ser Arg Ala  
35 40 45

401

Ala Arg Ile Thr Asp Leu Thr Leu Ala Ser Met Arg Tyr Ala Ile Val  
530 535 540  
Phe Pro Ser Ile Val Ser Ser Cys Leu Leu Thr Ala Leu Ala His Ala  
545 550 555 560  
Asn Thr Asn Ile Leu Ala Leu Asp Pro Tyr Arg Leu Ile Glu Ser Gly  
565 570 575  
Asp Leu Arg Arg Pro Ala Phe Asn Asp Asp Glu Met Gln Gln Ala Asp  
580 585 590  
Asn Pro Trp Asp Ala Tyr Ser Ile Gly Leu Val Ile Asn Thr Cys Ile  
595 600 605  
Tyr Met Leu Ile Leu Phe Ala Asn Leu Ile Phe Met Val Tyr Ser Val  
610 615 620  
Arg Arg Tyr His Arg Ser Arg Arg  
625 630

<210> 72  
<211> 64  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 72  
Tyr Lys Val Gly Leu Phe His Leu Lys Asn Gln Asn Phe Phe Ser Asn  
1 5 10 15  
Gln Ser Arg Thr Tyr Glu Gln Arg Phe Pro Lys Val Ser Pro His Phe  
20 25 30  
Glu Ser Ile Leu Arg Leu Gln Ser Val Gly Phe Ser Ser Gln Gly Thr  
35 40 45  
Leu Leu Ile Ser Phe Arg Asp Thr Glu Leu Lys Arg Asp Leu Tyr Ile  
50 55 60

<210> 73  
<211> 156  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 73  
Ile Lys Ser Leu Arg Ser Ile Leu Glu Phe Ile Cys Pro Leu Gln His  
1 5 10 15  
Ala Arg Cys Leu Lys Lys Gln His Lys Ile Ile Glu Glu Leu Phe Pro  
20 25 30  
Glu Pro Phe Gln Lys Asp His Leu Tyr Leu Lys Leu Met Glu Asn Ser  
35 40 45  
Ser Ser Arg Asp Ala Phe Asp Lys Lys Arg Met Leu Lys Glu Asn Leu  
50 55 60  
Val Val Gly Cys Gln Ser Asp Leu Tyr Leu Tyr Glu Val Tyr Gln Asp  
65 70 75 80  
Gly Ile Leu Phe Phe Phe Thr Tyr Thr Lys Ala Leu Met Ser Ser Gly  
85 90 95  
Ile Ala Ser Leu Phe Thr Glu Val Tyr Ser Gly Glu Thr Pro Ser Thr  
100 105 110  
Ile Leu Thr Cys Lys Pro Ile Phe Phe Gln Arg Leu Thr Pro Tyr Leu  
115 120 125  
Ser Phe Gly Arg Leu Asn Gly Gly Glu Ser Leu Tyr Met Arg Met Lys  
130 135 140  
Gln Ile Ala Val Gln Tyr Leu Lys Pro Pro Gln Thr  
145 150 155

<210> 74  
<211> 365  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 74

Arg	Gly	Tyr	Arg	Ser	Thr	Lys	Thr	Ser	Val	Tyr	Lys	Glu	Lys	Val	Leu
1			5					10						15	
Ile	Leu	Ile	Tyr	Cys	Leu	Leu	Phe	Tyr	Phe	Phe	His	Tyr	Arg	Met	Ser
			20					25					30		
Thr	Pro	Leu	Ser	Ser	Gly	Gly	Ile	Ser	Pro	Ser	Asp	Gln	Tyr	Val	Pro
		35					40					45			
Gln	Glu	Leu	Phe	Cys	Asp	Arg	Leu	Ser	Ser	Ser	Arg	Ser	Asn	Ser	Pro
		50				55					60				
Asp	Ser	Asn	Ala	Ser	Gly	Asp	Ser	Pro	Ile	Val	Ser	Pro	Pro	Ile	Ser
65				70						75				80	
Ala	Leu	Val	Ala	Leu	Thr	Asp	Leu	Lys	Leu	Val	Pro	Tyr	Asn	Gln	Asn
			85					90						95	
Ser	Phe	Ser	Trp	Thr	Thr	Arg	Leu	Lys	Asn	Ala	Val	Glu	Lys	Ile	Gly
			100					105					110		
Leu	Phe	Leu	Gln	Arg	Asn	Trp	Lys	Tyr	Ile	Leu	Leu	Tyr	Ile	Leu	Ala
		115					120						125		
Trp	Ala	Leu	Ile	Leu	Val	Cys	His	His	Thr	Val	Ala	Leu	Thr	Leu	Thr
		130				135					140				
Ile	Trp	Leu	Gly	Val	Gly	Leu	Gly	Ile	Gly	Val	Val	Phe	Gly	Ile	Phe
145				150						155				160	
Thr	Ala	Thr	Cys	Leu	Asp	Lys	Glu	Asn	Lys	His	Arg	His	Val	Asn	Ser
			165					170						175	
Leu	Trp	Asn	Leu	Ile	Asn	His	Gly	Ile	Leu	Gln	Leu	Asp	Pro	Asn	Gly
		180					185						190		
Thr	Arg	Gln	Ile	Leu	Leu	Ala	Thr	Met	Ile	Ala	Ser	Ile	Ser	Ala	Leu
		195					200					205			
Ile	Tyr	Ala	Val	Pro	Gln	Ala	Val	Gly	Leu	Val	Ile	Gly	Phe	Ser	Ile
		210				215					220				
Gly	Asn	Gln	Leu	Ser	Ile	Asn	Thr	Val	Tyr	Gly	Ala	Arg	Leu	Gly	Asp
225					230					235				240	
Glu	Ala	Thr	Tyr	Ala	Ile	Asp	Arg	Lys	Ala	His	Lys	Lys	Arg	Ile	Glu
			245					250						255	
Asn	Ile	Glu	Gln	Ala	Ile	Asn	Gln	His	Gln	Ile	Ile	Lys	His	Gln	Met
		260					265						270		
Ile	Asn	Gln	Lys	Gln	Leu	Asn	Ala	Leu	Ile	Glu	Ile	Asn	Arg	Asn	Asn
		275					280					285			
Gln	Thr	Asp	Pro	Ala	Thr	Ala	Asn	Leu	Leu	Ala	Ser	Leu	Lys	Leu	Asn
		290				295					300				
Leu	Asn	Gln	Pro	Met	Pro	Tyr	Cys	Phe	Ser	Met	Pro	Glu	Cys	Gly	Val
305				310						315				320	
Thr	Ser	Ser	Tyr	Leu	Asp	Leu	Asn	Asn	Asn	Ser	Pro	Asp	Asp	Ile	Ile
			325					330						335	
Ala	Arg	Ala	Asp	Gln	Cys	Ile	Met	Thr	Leu	Ser	Gln	Thr	Leu	Gln	Gln
		340						345					350		
Ile	Lys	Lys	Glu	Pro	Asp	Arg	Ile	Ile	Glu	Ser	Asn	His			
		355					360					365			

<210> 75

<211> 74

<212> PRT

<213> Chlamydia pneumoniae

<400> 75

Ser	Met	Ala	Lys	Lys	Glu	Asp	Thr	Leu	Val	Leu	Glu	Gly	Lys	Val	Glu
1			5					10						15	
Glu	Leu	Leu	Pro	Gly	Met	His	Phe	Arg	Val	Ile	Leu	Glu	Asn	Gly	Met
			20					25					30		
Pro	Val	Thr	Ala	His	Leu	Cys	Gly	Lys	Met	Arg	Met	Ser	Asn	Ile	Arg
		35					40					45			

Leu Leu Val Gly Asp Arg Val Thr Val Glu Met Ser Ala Tyr Asp Leu  
 50 55 60  
 Thr Lys Ala Arg Val Val Tyr Arg His Arg  
 65 70

<210> 76  
 <211> 398  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 76  
 Glu Asp Phe Glu Met Ser Lys Glu Thr Phe Gln Arg Asn Lys Pro His  
 1 5 10 15  
 Ile Asn Ile Gly Thr Ile Gly His Val Asp His Gly Lys Thr Thr Leu  
 20 25 30  
 Thr Ala Ala Ile Thr Arg Ala Leu Ser Gly Asp Gly Leu Ala Ser Phe  
 35 40 45  
 Arg Asp Tyr Ser Ser Ile Asp Asn Thr Pro Glu Glu Lys Ala Arg Gly  
 50 55 60  
 Ile Thr Ile Asn Ala Ser His Val Glu Tyr Glu Thr Pro Asn Arg His  
 65 70 75 80  
 Tyr Ala His Val Asp Cys Pro Gly His Ala Asp Tyr Val Lys Asn Met  
 85 90 95  
 Ile Thr Gly Ala Ala Gln Met Asp Gly Ala Ile Leu Val Val Ser Ala  
 100 105 110  
 Thr Asp Gly Ala Met Pro Gln Thr Lys Glu His Ile Leu Leu Ala Arg  
 115 120 125  
 Gln Val Gly Val Pro Tyr Ile Val Val Phe Leu Asn Lys Val Asp Met  
 130 135 140  
 Ile Ser Gln Glu Asp Ala Glu Leu Ile Asp Leu Val Glu Met Glu Leu  
 145 150 155 160  
 Ser Glu Leu Leu Glu Glu Lys Gly Tyr Lys Gly Cys Pro Ile Ile Arg  
 165 170 175  
 Gly Ser Ala Leu Lys Ala Leu Glu Gly Asp Ala Asn Tyr Ile Glu Lys  
 180 185 190  
 Val Arg Glu Leu Met Gln Ala Val Asp Asp Asn Ile Pro Thr Pro Glu  
 195 200 205  
 Arg Glu Ile Asp Lys Pro Phe Leu Met Pro Ile Glu Asp Val Phe Ser  
 210 215 220  
 Ile Ser Gly Arg Gly Thr Val Val Thr Gly Arg Ile Glu Arg Gly Ile  
 225 230 235 240  
 Val Lys Val Ser Asp Lys Val Gln Leu Val Gly Leu Gly Glu Thr Lys  
 245 250 255  
 Glu Thr Ile Val Thr Gly Val Glu Met Phe Arg Lys Glu Leu Pro Glu  
 260 265 270  
 Gly Arg Ala Gly Glu Asn Val Gly Leu Leu Leu Arg Gly Ile Gly Lys  
 275 280 285  
 Asn Asp Val Glu Arg Gly Met Val Val Cys Gln Pro Asn Ser Val Lys  
 290 295 300  
 Pro His Thr Lys Phe Lys Ser Ala Val Tyr Val Leu Gln Lys Glu Glu  
 305 310 315 320  
 Gly Gly Arg His Lys Pro Phe Phe Ser Gly Tyr Arg Pro Gln Phe Phe  
 325 330 335  
 Phe Arg Thr Thr Asp Val Thr Gly Val Val Thr Leu Pro Glu Gly Thr  
 340 345 350  
 Glu Met Val Met Pro Gly Asp Asn Val Glu Leu Asp Val Glu Leu Ile  
 355 360 365  
 Gly Thr Val Ala Leu Glu Glu Gly Met Arg Phe Ala Ile Arg Glu Gly  
 370 375 380  
 Gly Arg Thr Ile Gly Ala Gly Thr Ile Ser Lys Ile Asn Ala  
 385 390 395

<210> 77  
 <211> 88  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 77  
 Ser Arg Ser Trp Phe Met Lys Gln Gln His Asn Arg Lys Ala Leu Ser  
 1 5 10 15  
 Arg Lys Ile Gly Thr Val Lys Lys Gln Ala Lys Phe Ala Gly Ser Phe  
 20 25 30  
 Leu Asp Glu Ile Lys Lys Ile Glu Trp Val Ser Lys His Asp Leu Lys  
 35 40 45  
 Lys Tyr Ile Lys Val Val Leu Ile Ser Ile Phe Gly Phe Gly Phe Ala  
 50 55 60  
 Ile Tyr Phe Val Asp Leu Val Leu Arg Lys Ser Ile Thr Cys Leu Asp  
 65 70 75 80  
 Gly Ile Thr Thr Phe Leu Phe Gly  
 85

<210> 78  
 <211> 190  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 78  
 Gln Pro Phe Cys Ser Val Asn Cys Met Tyr Lys Trp Tyr Val Val Gln  
 1 5 10 15  
 Val Phe Thr Ala Gln Glu Lys Lys Val Lys Lys Ala Leu Glu Asp Phe  
 20 25 30  
 Lys Glu Ser Ser Gly Met Thr Asp Phe Ile Gln Glu Ile Ile Leu Pro  
 35 40 45  
 Ile Glu Asn Val Met Glu Val Lys Lys Gly Glu His Lys Val Val Glu  
 50 55 60  
 Lys Tyr Ile Trp Pro Gly Tyr Leu Leu Val Lys Met His Leu Thr Asp  
 65 70 75 80  
 Glu Ser Trp Leu Tyr Val Lys Ser Thr Ala Gly Ile Val Glu Phe Leu  
 85 90 95  
 Gly Gly Gly Val Pro Val Ala Leu Ser Glu Asp Glu Val Arg Ser Ile  
 100 105 110  
 Leu Thr Asp Ile Glu Glu Lys Lys Ser Gly Val Val Gln Lys His Gln  
 115 120 125  
 Phe Glu Val Gly Ser Arg Val Lys Ile Asn Asp Gly Val Phe Val Asn  
 130 135 140  
 Phe Ile Gly Met Val Ser Glu Val Phe His Asp Lys Gly Arg Leu Ser  
 145 150 155 160  
 Val Met Val Ser Ile Phe Gly Arg Glu Thr Arg Val Asp Asp Leu Glu  
 165 170 175  
 Phe Trp Gln Val Glu Glu Val Ala Pro Gly Gln Glu Ser Glu  
 180 185 190

<210> 79  
 <211> 160  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 79  
 Phe Phe Val Ser Tyr Pro Leu Phe Val Glu Val Ser Gln Cys Lys Val  
 1 5 10 15  
 Arg Phe Ser Met Ser Val Lys Lys Val Ile Lys Ile Ile Lys Leu Gln  
 20 25 30



Ile Pro Gly Gly Lys Ala Asn Pro Ala Pro Pro Ile Gly Pro Ala Leu  
           35                  40                  45  
 Gly Ala Ala Gly Val Asn Ile Met Gly Phe Cys Lys Glu Phe Asn Ala  
           50                  55                  60  
 Ala Thr Gln Asp Lys Pro Gly Asp Leu Leu Pro Val Val Ile Thr Val  
 65                  70                  75                  80  
 Tyr Ala Asp Lys Thr Phe Thr Phe Ile Thr Lys Gln Pro Pro Val Ser  
                   85                  90                  95  
 Ser Leu Ile Lys Lys Thr Leu Asn Leu Glu Ser Gly Ser Lys Ile Pro  
                   100                  105                  110  
 Asn Arg Asn Lys Val Gly Lys Leu Thr Gln Ala Gln Val Glu Ala Ile  
           115                  120                  125  
 Ala Glu Gln Lys Met Lys Asp Met Asp Ile Val Leu Leu Glu Ser Ala  
           130                  135                  140  
 Lys Arg Met Val Glu Gly Thr Ala Arg Ser Met Gly Ile Asp Val Glu  
 145                  150                  155                  160

<210> 80  
 <211> 236  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 80  
 Ser Cys Arg Ile Met Thr Lys His Gly Lys Arg Ile Arg Gly Ile Leu  
 1                  5                  10                  15  
 Lys Asn Tyr Asp Phe Ser Lys Ser Tyr Ser Leu Arg Glu Ala Ile Asp  
           20                  25                  30  
 Ile Leu Lys Gln Cys Pro Pro Val Arg Phe Asp Gln Thr Val Asp Val  
           35                  40                  45  
 Ser Ile Lys Leu Gly Ile Asp Pro Lys Lys Ser Asp Gln Gln Ile Arg  
           50                  55                  60  
 Gly Ala Val Phe Leu Pro Asn Gly Thr Gly Lys Thr Leu Arg Ile Leu  
 65                  70                  75                  80  
 Val Phe Ala Ser Gly Asn Lys Val Lys Glu Ala Val Glu Ala Gly Ala  
                   85                  90                  95  
 Asp Phe Met Gly Ser Asp Asp Leu Val Glu Lys Ile Lys Ser Gly Trp  
           100                  105                  110  
 Leu Glu Phe Asp Val Ala Val Ala Thr Pro Asp Met Met Arg Glu Val  
           115                  120                  125  
 Gly Lys Leu Gly Lys Val Leu Gly Pro Arg Asn Leu Met Pro Thr Pro  
           130                  135                  140  
 Lys Thr Gly Thr Val Thr Thr Asp Val Ala Lys Ala Ile Ser Glu Leu  
 145                  150                  155                  160  
 Arg Lys Gly Lys Ile Glu Phe Lys Ala Asp Arg Ala Gly Val Cys Asn  
                   165                  170                  175  
 Val Gly Val Gly Lys Leu Ser Phe Glu Ser Ser Gln Ile Lys Glu Asn  
                   180                  185                  190  
 Ile Glu Ala Leu Ser Ser Ala Leu Ile Lys Ala Lys Pro Pro Ala Ala  
           195                  200                  205  
 Lys Gly Gln Tyr Leu Val Ser Phe Thr Ile Ser Ser Thr Met Gly Pro  
           210                  215                  220  
 Gly Ile Ser Ile Asp Thr Arg Glu Leu Met Ala Ser  
 225                  230                  235

<210> 81  
 <211> 173  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 81

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Arg Gly Lys Met Lys Gln Glu Lys Thr Leu Leu Leu Gln Glu Val Glu
1          5          10          15
Asp Lys Ile Ser Ala Ala Gln Gly Phe Ile Leu Leu Arg Tyr Leu Arg
20          25          30
Phe Thr Ala Ala Tyr Ser Arg Glu Phe Arg Asn Ser Leu Ser Gly Val
35          40          45
Ser Ala Glu Phe Glu Val Leu Lys Lys Arg Ile Phe Phe Lys Ala Ile
50          55          60
Glu Ala Ala Gly Leu Glu Val Asp Cys Ser Asp Thr Asp Gly His Leu
65          70          75          80
Gly Val Val Phe Ser Cys Gly Asp Pro Val Ser Ala Ala Lys Gln Val
85          90          95
Leu Asp Phe Asn Lys Gln His Lys Asp Ser Leu Val Phe Leu Ala Gly
100         105         110
Arg Met Asp Asn Ala Ser Leu Ser Gly Ala Glu Val Glu Ala Val Ala
115         120         125
Lys Leu Pro Ser Leu Lys Glu Leu Arg Gln Gln Val Val Gly Leu Phe
130         135         140
Ala Ala Pro Met Ser Gln Val Val Gly Ile Met Asn Ser Val Leu Ser
145         150         155         160
Gly Val Ile Ser Cys Val Asp Gln Lys Ala Gly Lys Asn
165         170

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<210> 82

<211> 134

<212> PRT

<213> Chlamydia pneumoniae

<400> 82

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Val Arg Val Thr Lys Val Thr Thr Glu Ser Leu Glu Thr Leu Val Glu
1          5          10          15
Lys Leu Ser Asn Leu Thr Val Leu Glu Leu Ser Gln Leu Lys Lys Leu
20          25          30
Leu Glu Glu Lys Trp Asp Val Thr Ala Ser Ala Pro Val Val Ala Val
35          40          45
Ala Ala Gly Gly Gly Gly Glu Ala Pro Val Ala Ala Glu Pro Thr Glu
50          55          60
Phe Ala Val Thr Leu Glu Asp Val Pro Ala Asp Lys Lys Ile Gly Val
65          70          75          80
Leu Lys Val Val Arg Glu Val Thr Gly Leu Ala Leu Lys Glu Ala Lys
85          90          95
Glu Met Thr Glu Gly Leu Pro Lys Thr Val Lys Glu Lys Thr Ser Lys
100         105         110
Ser Asp Ala Glu Asp Thr Val Lys Lys Leu Gln Asp Ala Gly Ala Lys
115         120         125
Ala Ser Phe Lys Gly Leu
130

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<210> 83

<211> 1266

<212> PRT

<213> Chlamydia pneumoniae

<400> 83

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Phe Arg Glu Ile Leu Ser His Gln Asn Ser Arg Arg Thr Arg Met Leu
1          5          10          15
Lys Cys Pro Glu Arg Val Ser Val Lys Lys Lys Glu Asp Ile Pro Asp
20          25          30
Leu Pro Asn Leu Ile Glu Ile Gln Ile Lys Ser Tyr Lys Gln Phe Leu
35          40          45

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Gln Ile Gly Lys Leu Ala Glu Glu Arg Glu Asn Ile Gly Leu Glu Glu  
 50 55 60  
 Val Phe Arg Glu Ile Phe Pro Ile Lys Ser Tyr Asn Glu Ala Thr Val  
 65 70 75 80  
 Leu Glu Tyr Leu Ser Tyr Asn Leu Gly Val Pro Lys Tyr Ser Pro Glu  
 85 90 95  
 Glu Cys Ile Arg Arg Gly Ile Thr Tyr Ser Val Thr Leu Lys Val Arg  
 100 105 110  
 Phe Arg Leu Thr Asp Glu Thr Gly Ile Lys Glu Glu Glu Val Tyr Met  
 115 120 125  
 Gly Thr Ile Pro Leu Met Thr Asp Lys Gly Thr Phe Ile Ile Asn Gly  
 130 135 140  
 Ala Glu Arg Val Val Val Ser Gln Val His Arg Ser Pro Gly Ile Asn  
 145 150 155 160  
 Phe Glu Gln Glu Lys His Ser Lys Gly Asn Ile Leu Phe Ser Phe Arg  
 165 170 175  
 Ile Ile Pro Tyr Arg Gly Ser Trp Leu Glu Ala Ile Phe Asp Ile Asn  
 180 185 190  
 Asp Leu Ile Tyr Ile His Ile Asp Arg Lys Lys Arg Arg Arg Lys Ile  
 195 200 205  
 Leu Ala Ile Thr Phe Ile Arg Ala Leu Gly Tyr Ser Ser Asp Ala Asp  
 210 215 220  
 Ile Ile Glu Glu Phe Phe Thr Ile Gly Glu Ser Ser Leu Arg Ser Glu  
 225 230 235 240  
 Lys Asp Phe Ala Leu Leu Val Gly Arg Ile Leu Ala Asp Asn Ile Ile  
 245 250 255  
 Asp Glu Ala Ser Ser Leu Val Tyr Gly Lys Ala Gly Glu Lys Leu Ser  
 260 265 270  
 Thr Ala Met Leu Lys Arg Met Leu Asp Ala Gly Ile Ala Ser Val Lys  
 275 280 285  
 Ile Ala Val Asp Ala Asp Glu Asn His Pro Ile Ile Lys Met Leu Ala  
 290 295 300  
 Lys Asp Pro Thr Asp Ser Tyr Glu Ala Ala Leu Lys Asp Phe Tyr Arg  
 305 310 315 320  
 Arg Leu Arg Pro Gly Glu Pro Ala Thr Leu Ala Asn Ala Arg Ser Thr  
 325 330 335  
 Ile Met Arg Leu Phe Phe Asp Pro Lys Arg Tyr Asn Leu Gly Arg Val  
 340 345 350  
 Gly Arg Tyr Lys Leu Asn Arg Lys Leu Gly Phe Ser Ile Asp Asp Glu  
 355 360 365  
 Ala Leu Ser Gln Val Thr Leu Arg Lys Glu Asp Val Ile Gly Ala Leu  
 370 375 380  
 Lys Tyr Leu Ile Arg Leu Lys Met Gly Asp Glu Lys Ala Cys Val Asp  
 385 390 395 400  
 Asp Ile Asp His Leu Ala Asn Arg Arg Val Arg Ser Val Gly Glu Leu  
 405 410 415  
 Ile Gln Asn Gln Cys Arg Ser Gly Leu Ala Arg Met Glu Lys Ile Val  
 420 425 430  
 Arg Glu Arg Met Asn Leu Phe Asp Phe Ser Ser Asp Thr Leu Thr Pro  
 435 440 445  
 Gly Lys Val Val Ser Ala Lys Gly Leu Ala Ser Val Leu Lys Asp Phe  
 450 455 460  
 Phe Gly Arg Ser Gln Leu Ser Gln Phe Met Asp Gln Thr Asn Pro Val  
 465 470 475 480  
 Ala Glu Leu Thr His Lys Arg Arg Leu Ser Ala Leu Gly Pro Gly Gly  
 485 490 495  
 Leu Asn Arg Glu Arg Ala Gly Phe Glu Val Arg Asp Val His Ala Ser  
 500 505 510  
 His Tyr Gly Arg Ile Cys Pro Ile Glu Thr Pro Glu Gly Pro Asn Ile  
 515 520 525

Gly Leu Ile Thr Ser Leu Ser Ser Phe Ala Lys Ile Asn Glu Phe Gly  
 530 535 540  
 Phe Ile Glu Thr Pro Tyr Arg Ile Val Arg Asp Gly Ile Val Thr Asp  
 545 550 555 560  
 Glu Ile Glu Tyr Met Thr Ala Asp Val Glu Glu Glu Cys Val Ile Ala  
 565 570 575  
 Gln Ala Ser Ala Ser Leu Asp Glu Tyr Asn Met Phe Thr Glu Pro Val  
 580 585 590  
 Cys Trp Val Arg Tyr Ala Gly Glu Ala Phe Glu Ala Asp Thr Ser Thr  
 595 600 605  
 Val Thr His Met Asp Val Ser Pro Lys Gln Leu Val Ser Ile Val Thr  
 610 615 620  
 Gly Leu Ile Pro Phe Leu Glu His Asp Asp Ala Asn Arg Ala Leu Met  
 625 630 635 640  
 Gly Ser Asn Met Gln Arg Gln Ala Val Pro Leu Leu Lys Thr Glu Ala  
 645 650 655  
 Pro Val Val Gly Thr Gly Leu Glu Cys Arg Ala Ala Lys Asp Ser Gly  
 660 665 670  
 Ala Ile Val Val Ala Glu Glu Asp Gly Val Val Asp Phe Val Asp Gly  
 675 680 685  
 Tyr Lys Val Val Val Ala Ala Lys His Asn Pro Thr Ile Lys Arg Thr  
 690 695 700  
 Tyr His Leu Lys Lys Phe Leu Arg Ser Asn Ser Gly Thr Cys Ile Asn  
 705 710 715 720  
 Gln Gln Pro Leu Cys Ala Val Gly Asp Val Ile Thr Lys Gly Asp Val  
 725 730 735  
 Ile Ala Asp Gly Pro Ala Thr Asp Arg Gly Glu Leu Ala Leu Gly Lys  
 740 745 750  
 Asn Val Leu Val Ala Phe Met Pro Trp Tyr Gly Tyr Asn Phe Glu Asp  
 755 760 765  
 Ala Ile Ile Ile Ser Glu Lys Leu Ile Arg Glu Asp Ala Tyr Thr Ser  
 770 775 780  
 Ile Tyr Ile Glu Glu Phe Glu Leu Thr Ala Arg Asp Thr Lys Leu Gly  
 785 790 795 800  
 Lys Glu Glu Ile Thr Arg Asp Ile Pro Asn Val Ser Asp Glu Val Leu  
 805 810 815  
 Ala Asn Leu Gly Glu Asp Gly Ile Ile Arg Ile Gly Ala Glu Val Lys  
 820 825 830  
 Pro Gly Asp Ile Leu Val Gly Lys Ile Thr Pro Lys Ser Glu Thr Glu  
 835 840 845  
 Leu Ala Pro Glu Glu Arg Leu Leu Arg Ala Ile Phe Gly Glu Lys Ala  
 850 855 860  
 Ala Asp Val Lys Asp Ala Ser Leu Thr Val Pro Pro Gly Thr Glu Gly  
 865 870 875 880  
 Val Val Met Asp Val Lys Val Phe Ser Arg Lys Asp Arg Leu Ser Lys  
 885 890 895  
 Ser Asp Asp Glu Leu Val Glu Glu Ala Val His Leu Lys Asp Leu Gln  
 900 905 910  
 Lys Gly Tyr Lys Asn Gln Val Ala Thr Leu Lys Thr Glu Tyr Arg Glu  
 915 920 925  
 Lys Leu Gly Ala Leu Leu Leu Asn Glu Lys Ala Pro Ala Ala Ile Ile  
 930 935 940  
 His Arg Arg Thr Ala Glu Ile Val Val His Glu Gly Leu Leu Phe Asp  
 945 950 955 960  
 Gln Glu Thr Ile Glu Arg Ile Glu Gln Glu Asp Leu Val Asp Leu Leu  
 965 970 975  
 Met Pro Asn Cys Glu Met Tyr Glu Val Leu Lys Gly Leu Leu Ser Asp  
 980 985 990  
 Tyr Glu Thr Ala Leu Gln Arg Leu Glu Ile Asn Tyr Lys Thr Glu Val  
 995 1000 1005

Glu His Ile Arg Glu Gly Asp Ala Asp Leu Asp His Gly Val Ile Arg  
 1010 1015 1020  
 Gln Val Lys Val Tyr Val Ala Ser Lys Arg Lys Leu Gln Val Gly Asp  
 1025 1030 1035 1040  
 Lys Met Ala Gly Arg His Gly Asn Lys Gly Val Val Ser Lys Ile Val  
 1045 1050 1055  
 Pro Glu Ala Asp Met Pro Tyr Leu Ser Asn Gly Glu Thr Val Gln Met  
 1060 1065 1070  
 Ile Leu Asn Pro Leu Gly Val Pro Ser Arg Met Asn Leu Gly Gln Val  
 1075 1080 1085  
 Leu Glu Thr His Leu Gly Tyr Ala Ala Lys Thr Ala Gly Ile Tyr Val  
 1090 1095 1100  
 Lys Thr Pro Val Phe Glu Gly Phe Pro Glu Gln Arg Ile Trp Asp Met  
 1105 1110 1115 1120  
 Met Ile Glu Gln Gly Leu Pro Glu Asp Gly Lys Ser Phe Leu Tyr Asp  
 1125 1130 1135  
 Gly Lys Thr Gly Glu Arg Phe Asp Asn Lys Val Val Ile Gly Tyr Ile  
 1140 1145 1150  
 Tyr Met Leu Lys Leu Ser His Leu Ile Ala Asp Lys Ile His Ala Arg  
 1155 1160 1165  
 Ser Ile Gly Pro Tyr Ser Leu Val Thr Gln Gln Pro Leu Gly Gly Lys  
 1170 1175 1180  
 Ala Gln Met Gly Gly Gln Arg Phe Gly Glu Met Glu Val Trp Ala Leu  
 1185 1190 1195 1200  
 Glu Ala Tyr Gly Val Ala His Met Leu Gln Glu Ile Leu Thr Val Lys  
 1205 1210 1215  
 Ser Asp Asp Val Ser Gly Arg Thr Arg Ile Tyr Glu Ser Ile Val Lys  
 1220 1225 1230  
 Gly Glu Asn Leu Leu Arg Ser Gly Thr Pro Glu Ser Phe Asn Val Leu  
 1235 1240 1245  
 Ile Lys Glu Met Gln Gly Leu Gly Leu Asp Val Arg Pro Met Val Val  
 1250 1255 1260  
 Asp Ala  
 1265

<210> 84  
 <211> 1410  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 84  
 Cys Ser Ser Tyr Gly Arg Arg Arg Leu Lys Asn Asp Val Leu Glu Lys  
 1 5 10 15  
 Ile Met Phe Gly Glu Asn Ser Arg Asp Ile Gly Val Leu Ser Lys Glu  
 20 25 30  
 Gly Leu Phe Asp Lys Leu Glu Ile Gly Ile Ala Ser Asp Ile Thr Ile  
 35 40 45  
 Arg Asp Lys Trp Ser Cys Gly Glu Ile Lys Lys Pro Glu Thr Ile Asn  
 50 55 60  
 Tyr Arg Thr Phe Lys Pro Glu Lys Gly Gly Leu Phe Cys Glu Lys Ile  
 65 70 75 80  
 Phe Gly Pro Thr Lys Asp Trp Glu Cys Cys Cys Gly Lys Tyr Lys Lys  
 85 90 95  
 Ile Lys His Lys Gly Ile Val Cys Asp Arg Cys Gly Val Glu Val Thr  
 100 105 110  
 Leu Ser Lys Val Arg Arg Glu Arg Met Ala His Ile Glu Leu Ala Val  
 115 120 125  
 Pro Ile Val His Ile Trp Phe Phe Lys Thr Thr Pro Ser Arg Ile Gly  
 130 135 140  
 Asn Val Leu Gly Met Thr Ala Ser Asp Leu Glu Arg Val Ile Tyr Tyr  
 145 150 155 160

Glu Glu Tyr Val Val Ile Asp Pro Gly Lys Thr Asp Leu Thr Lys Lys  
 165 170 175  
 Gln Leu Leu Asn Asp Ala Gln Tyr Arg Glu Val Val Glu Lys Trp Gly  
 180 185 190  
 Lys Asp Ala Phe Val Ala Lys Met Gly Gly Glu Ala Ile Tyr Asp Leu  
 195 200 205  
 Leu Lys Ser Glu Asp Leu Gln Ser Leu Leu Lys Asp Leu Lys Glu Arg  
 210 215 220  
 Leu Arg Lys Thr Lys Ser Gln Gln Ala Arg Met Lys Leu Ala Lys Arg  
 225 230 235 240  
 Leu Lys Ile Ile Glu Gly Phe Val Ser Ser Asn His Pro Glu Trp  
 245 250 255  
 Met Val Leu Lys Asn Ile Pro Val Val Pro Pro Asp Leu Arg Pro Leu  
 260 265 270  
 Val Pro Leu Asp Gly Gly Arg Phe Ala Thr Ser Asp Leu Asn Asp Leu  
 275 280 285  
 Tyr Arg Arg Val Ile Asn Arg Asn Asn Arg Leu Lys Ala Ile Leu Arg  
 290 295 300  
 Leu Lys Thr Pro Glu Val Ile Val Arg Asn Glu Lys Arg Met Leu Gln  
 305 310 315 320  
 Glu Ala Val Asp Ala Leu Phe Asp Asn Gly Arg His Gly His Pro Val  
 325 330 335  
 Met Gly Ala Gly Asn Arg Pro Leu Lys Ser Leu Ser Glu Met Leu Lys  
 340 345 350  
 Gly Lys Asn Gly Arg Phe Arg Gln Asn Leu Leu Gly Lys Arg Val Asp  
 355 360 365  
 Tyr Ser Gly Arg Ser Val Ile Val Gly Pro Glu Leu Lys Phe Asn  
 370 375 380  
 Gln Cys Gly Leu Pro Lys Glu Met Ala Leu Glu Leu Phe Glu Pro Phe  
 385 390 395 400  
 Ile Ile Lys Arg Leu Lys Asp Gln Gly Ser Val Tyr Thr Ile Arg Ser  
 405 410 415  
 Ala Lys Lys Met Ile Gln Arg Gly Ala Pro Glu Val Trp Asp Val Leu  
 420 425 430  
 Glu Glu Ile Lys Gly His Pro Val Leu Leu Asn Arg Ala Pro Thr  
 435 440 445  
 Leu His Arg Leu Gly Ile Gln Ala Phe Glu Pro Val Leu Ile Glu Gly  
 450 455 460  
 Lys Ala Ile Arg Ile His Pro Leu Val Cys Ala Ala Phe Asn Ala Asp  
 465 470 475 480  
 Phe Asp Gly Asp Gln Met Ala Val His Val Pro Leu Ser Val Glu Ala  
 485 490 495  
 Gln Leu Glu Ala Lys Val Leu Met Met Ala Pro Asp Asn Ile Phe Leu  
 500 505 510  
 Pro Ser Ser Gly Lys Pro Val Ala Ile Pro Ser Lys Asp Met Thr Leu  
 515 520 525  
 Gly Leu Tyr Tyr Leu Met Ala Asp Pro Thr Tyr Phe Pro Glu Glu His  
 530 535 540  
 Gly Gly Lys Thr Lys Ile Phe Lys Asp Glu Ile Glu Val Leu Arg Ala  
 545 550 555 560  
 Leu Asn Asn Gly Gly Phe Ile Asp Asp Val Phe Gly Asp Arg Arg Asp  
 565 570 575  
 Glu Thr Gly Arg Gly Ile His Ile His Glu Lys Ile Lys Val Arg Ile  
 580 585 590  
 Asp Gly Gln Ile Ile Glu Thr Thr Pro Gly Arg Val Leu Phe Asn Arg  
 595 600 605  
 Ile Val Pro Lys Glu Leu Gly Phe Gln Asn Tyr Ser Met Pro Ser Lys  
 610 615 620  
 Arg Ile Ser Glu Leu Ile Leu Gln Cys Tyr Lys Lys Val Gly Leu Glu  
 625 630 635 640

Ala Thr Val Arg Phe Leu Asp Asp Leu Lys Asp Leu Gly Phe Ile Gln  
 645 650 655  
 Ala Thr Lys Ala Ala Ile Ser Met Gly Leu Lys Asp Val Arg Ile Pro  
 660 665 670  
 Asp Ile Lys Ser His Ile Leu Lys Asp Ala Tyr Asp Lys Val Ala Ile  
 675 680 685  
 Val Lys Lys Gln Tyr Asp Asp Gly Ile Ile Thr Glu Gly Glu Arg His  
 690 695 700  
 Ser Lys Thr Ile Ser Ile Trp Thr Glu Val Ser Glu Gln Leu Ser Asp  
 705 710 715 720  
 Ala Leu Tyr Val Glu Ile Ser Lys Gln Thr Arg Ser Lys His Asn Pro  
 725 730 735  
 Leu Phe Leu Met Ile Asp Ser Gly Ala Arg Gly Asn Lys Ser Gln Leu  
 740 745 750  
 Lys Gln Leu Gly Ala Leu Arg Gly Leu Met Ala Lys Pro Asn Gly Ala  
 755 760 765  
 Ile Ile Glu Ser Pro Ile Thr Ser Asn Phe Arg Glu Gly Leu Thr Val  
 770 775 780  
 Leu Glu Tyr Ser Ile Ser Ser His Gly Ala Arg Lys Gly Leu Ala Asp  
 785 790 795 800  
 Thr Ala Leu Lys Thr Ala Asp Ser Gly Tyr Leu Thr Arg Arg Leu Val  
 805 810 815  
 Asp Val Ala Gln Asp Val Ile Ile Thr Glu Lys Asp Cys Gly Thr Leu  
 820 825 830  
 Asn His Ile Glu Ile Ser Ala Ile Gly Gln Gly Ser Glu Glu Leu Leu  
 835 840 845  
 Pro Leu Lys Asp Arg Ile Tyr Gly Arg Thr Val Ala Glu Asp Val Tyr  
 850 855 860  
 Gln Pro Gly Asp Lys Ser Arg Leu Leu Ala Gln Ser Gly Asp Val Leu  
 865 870 875 880  
 Asn Ser Val Gln Ala Glu Ala Ile Asp Asp Ala Gly Ile Glu Thr Ile  
 885 890 895  
 Lys Ile Arg Ser Thr Leu Thr Cys Glu Ser Pro Arg Gly Val Cys Ala  
 900 905 910  
 Lys Cys Tyr Gly Leu Asn Leu Ala Asn Gly Arg Leu Ile Gly Met Gly  
 915 920 925  
 Glu Ala Val Gly Ile Ile Ala Ala Gln Ser Ile Gly Glu Pro Gly Thr  
 930 935 940  
 Gln Leu Thr Met Arg Thr Phe His Leu Gly Gly Ile Ala Ala Thr Ser  
 945 950 955 960  
 Ser Thr Pro Glu Ile Ile Thr Asn Ser Asp Gly Ile Leu Val Tyr Met  
 965 970 975  
 Asp Leu Arg Val Val Leu Gly Gln Glu Gly His Asn Leu Val Leu Asn  
 980 985 990  
 Lys Lys Gly Ala Leu His Val Val Gly Asp Glu Gly Arg Thr Leu Asn  
 995 1000 1005  
 Glu Tyr Lys Lys Leu Leu Ser Thr Lys Ser Ile Glu Ser Leu Glu Val  
 1010 1015 1020  
 Phe Pro Val Glu Leu Gly Val Lys Ile Leu Val Ala Asp Gly Thr Pro  
 1025 1030 1035 1040  
 Val Ser Gln Gly Gln Arg Ile Gly Glu Val Glu Leu His Asn Ile Pro  
 1045 1050 1055  
 Ile Ile Cys Asp Lys Pro Gly Phe Ile Lys Tyr Glu Asp Leu Val Glu  
 1060 1065 1070  
 Gly Ile Ser Thr Glu Lys Val Val Asn Lys Asn Thr Gly Leu Val Glu  
 1075 1080 1085  
 Leu Ile Val Lys Gln His Arg Gly Glu Leu His Pro Gln Ile Ala Ile  
 1090 1095 1100  
 Tyr Asp Asp Ala Asp Leu Ser Glu Leu Val Gly Thr Tyr Ala Ile Pro  
 1105 1110 1115 1120



Ser Gly Ala Ile Ile Ser Val Glu Glu Gly Gln Arg Val Asp Pro Gly  
 1125 1130 1135  
 Met Leu Leu Ala Arg Leu Pro Arg Gly Ala Ile Lys Thr Lys Asp Ile  
 1140 1145 1150  
 Thr Gly Gly Leu Pro Arg Val Ala Glu Leu Val Glu Ala Arg Lys Pro  
 1155 1160 1165  
 Glu Asp Ala Ala Asp Ile Ala Lys Ile Asp Gly Val Val Asp Phe Lys  
 1170 1175 1180  
 Gly Ile Gln Lys Asn Lys Arg Ile Leu Val Val Cys Asp Glu Met Thr  
 1185 1190 1195 1200  
 Gly Met Glu Glu Glu His Leu Ile Pro Leu Thr Lys His Leu Ile Val  
 1205 1210 1215  
 Gln Arg Gly Asp Ser Val Ile Lys Gly Gln Gln Leu Thr Asp Gly Leu  
 1220 1225 1230  
 Val Val Pro His Glu Ile Leu Glu Ile Cys Gly Val Arg Glu Leu Gln  
 1235 1240 1245  
 Lys Tyr Leu Val Asn Glu Val Gln Glu Val Tyr Arg Leu Gln Gly Val  
 1250 1255 1260  
 Asp Ile Asn Asp Lys His Ile Glu Ile Ile Val Arg Gln Met Leu Gln  
 1265 1270 1275 1280  
 Lys Val Arg Ile Thr Asp Pro Gly Asp Thr Thr Leu Leu Phe Gly Glu  
 1285 1290 1295  
 Asp Val Asn Lys Lys Glu Phe Tyr Glu Glu Asn Arg Arg Thr Glu Glu  
 1300 1305 1310  
 Asp Gly Gly Lys Pro Ala Gln Ala Val Pro Val Leu Leu Gly Ile Thr  
 1315 1320 1325  
 Lys Ala Ser Leu Gly Thr Glu Ser Phe Ile Ser Ala Ala Ser Phe Gln  
 1330 1335 1340  
 Asp Thr Thr Arg Val Leu Thr Asp Ala Ala Cys Cys Ser Lys Thr Asp  
 1345 1350 1355 1360  
 Tyr Leu Leu Gly Phe Lys Glu Asn Val Ile Met Gly His Met Ile Pro  
 1365 1370 1375  
 Gly Gly Thr Gly Phe Glu Thr His Lys Arg Ile Lys Gln Tyr Leu Glu  
 1380 1385 1390  
 Lys Glu Gln Glu Asp Leu Val Phe Asp Phe Val Ser Glu Thr Glu Cys  
 1395 1400 1405  
 Val Cys  
 1410

<210> 85  
 <211> 339  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 85  
 Arg Cys Leu Glu Ile Asn Ser Asp Ala Lys Val Pro Met Ser Asn Gln  
 1 5 10 15  
 Phe Asp Gln Leu Lys Lys Leu Ser Thr Ile Val Cys Asp Ser Gly Asp  
 20 25 30  
 Pro Glu Leu Val Lys Ala Ser Gly Ser Gln Asp Ala Thr Thr Asn Pro  
 35 40 45  
 Ser Leu Ile Leu Lys Val Ala Gln Glu Pro Lys Phe Gln Glu Leu Leu  
 50 55 60  
 Asn Glu Ala Val Val Trp Gly Ile Arg Gln Asn Gly Asp Asp Leu Gln  
 65 70 75 80  
 Thr Leu Ser Phe Ile Leu Asp Lys Ile Gln Val Asn Phe Ala Leu Glu  
 85 90 95  
 Ile Ile Lys Asn Ile Pro Gly Arg Ile Ser Leu Glu Ile Asp Ala Arg  
 100 105 110  
 Leu Ser Phe Asn Val Glu Ala Met Val Gln Arg Ala Val Phe Leu Ser  
 115 120 125

Gln Leu Phe Glu Ala Met Gly Gly Asp Lys Lys Arg Leu Leu Val Lys  
 130 135 140  
 Ile Pro Gly Thr Trp Glu Gly Ile Arg Ala Val Glu Phe Leu Glu Ala  
 145 150 155 160  
 Lys Gly Ile Ala Cys Asn Val Thr Leu Ile Phe Asn Leu Val Gln Ala  
 165 170 175  
 Ile Ala Ala Ala Lys Ala Lys Ala Thr Leu Ile Ser Pro Phe Val Gly  
 180 185 190  
 Arg Ile Tyr Asp Trp Trp Ile Ala Ala Tyr Gly Asp Glu Gly Tyr Ser  
 195 200 205  
 Ile Asp Ala Asp Pro Gly Val Ala Ser Val Ser Asn Ile Tyr Ala Tyr  
 210 215 220  
 Tyr Lys Lys Phe Gly Ile Pro Thr Gln Ile Met Ala Ala Ser Phe Arg  
 225 230 235 240  
 Thr Lys Glu Gln Val Leu Ala Leu Ala Gly Cys Asp Leu Leu Thr Ile  
 245 250 255  
 Ser Pro Lys Leu Leu Asp Glu Leu Lys Lys Ser Gln His Pro Val Lys  
 260 265 270  
 Lys Glu Leu Asp Pro Ala Glu Ala Lys Lys Leu Asp Val Gln Pro Ile  
 275 280 285  
 Glu Leu Thr Glu Ser Phe Phe Arg Phe Leu Met Asn Glu Asp Ala Met  
 290 295 300  
 Ala Thr Glu Lys Leu Ala Glu Gly Ile Arg Ile Phe Ala Gly Asp Thr  
 305 310 315 320  
 Gln Ile Leu Glu Thr Ala Ile Thr Glu Phe Ile Lys Gln Ile Ala Ala  
 325 330 335  
 Glu Gly Ala

<210> 86  
 <211> 132  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 86  
 Ser Glu Met Lys Asn Lys Met Asp Tyr Lys Ser Gln Leu Val Phe Ser  
 1 5 10 15  
 Cys Pro Cys Cys Cys Lys Gly Asn Val Cys Phe Ser Val Phe Asn Leu  
 20 25 30  
 Asp Val Ile Leu Thr Cys Asn Val Cys Ser Ser Thr Tyr Thr Phe Asp  
 35 40 45  
 Ser Val Ile Arg Asn Glu Ile Arg Gln Phe Val Ala Leu Cys Lys Arg  
 50 55 60  
 Ile His Asp Ala Asn Ser Ile Leu Gly Asn Ala Thr Val Ser Val Ser  
 65 70 75 80  
 Val Glu Asp Asn Gln Met Asp Ile Pro Phe Gln Leu Leu Phe Ser Arg  
 85 90 95  
 Phe Pro Val Val Leu Asn Leu Ser Leu Asp Gly Lys Lys Ile Ala Ile  
 100 105 110  
 Arg Phe Leu Phe Asp Ala Leu Asn Thr Ser Ile Leu His Gln Glu Ser  
 115 120 125  
 Asp Leu Ile Ser  
 130

<210> 87  
 <211> 249  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 87

Phe	Ser	Met	Lys	Phe	Phe	Ile	Leu	Phe	Ile	Leu	Ile	Val	Ala	Gln	Phe
1				5					10					15	
Pro	Ala	Phe	Ser	Ala	Gln	Pro	Arg	Thr	Gln	Val	Ser	Ala	Ser	His	Ser
			20					25					30		
Lys	Gln	Ala	Lys	Ala	Arg	Arg	Thr	Ser	Arg	Ile	Arg	Ser	Ser	Ala	Ala
		35					40					45			
Thr	Asn	Ala	Ser	Val	Ser	Arg	Tyr	Lys	Thr	Arg	Ala	Ala	Ala	Arg	Lys
	50					55					60				
Lys	Ile	Gly	Lys	Phe	Glu	Lys	Lys	Pro	Ser	Leu	Ser	Pro	Val	Gln	Trp
65					70					75				80	
Val	Arg	Tyr	Ser	Gly	Lys	Asn	Tyr	Ser	Ile	Gln	Thr	Pro	Ser	Leu	Trp
				85				90						95	
Gln	Cys	Ile	Asp	Asp	Lys	Thr	Gln	Leu	Pro	Glu	Lys	Leu	Asp	Val	Leu
			100					105					110		
Leu	Ile	Gly	Lys	Gly	Lys	Gly	Asn	Leu	Thr	Pro	Thr	Ile	Asn	Ile	Ala
		115					120					125			
Gln	Glu	Ile	Thr	Ser	Lys	Ser	Ser	Lys	Glu	Tyr	Ile	Glu	Glu	Ile	Leu
	130					135					140				
Ala	Tyr	His	Lys	Ala	Asn	Glu	Met	Thr	Leu	Glu	Ser	Gly	Ile	Phe	Thr
145					150					155					160
Gln	Ile	Gln	Ser	Pro	Ser	Gly	Glu	Phe	Thr	Ile	Ile	Lys	Thr	Glu	Lys
				165					170					175	
Asn	Ser	Ser	Trp	Gly	Arg	Val	Phe	Cys	Leu	Gln	Ala	Thr	Thr	Val	Ile
			180					185						190	
Asp	His	Thr	Ala	Tyr	Ile	Phe	Thr	Ser	Thr	Ala	Thr	Leu	Asp	Asp	Tyr
		195					200					205			
Ala	Glu	Leu	Ser	Phe	Thr	Phe	Leu	Lys	Val	Val	Ser	Ser	Phe	Gln	Ile
	210					215					220				
Arg	Gly	Gly	Lys	Glu	Ala	Thr	Ser	Gly	Asp	Ala	Ile	Leu	Glu	Lys	Ala
225					230					235					240
Leu	Glu	Ala	Leu	Gln	Asn	Glu	Asn	Lys							
					245										

<210> 88  
 <211> 210  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 88

Asn	Ile	Met	Ala	Asn	Leu	Asn	Ala	Asp	Gly	Lys	Leu	Lys	Gln	Ile	Cys
1				5					10					15	
Asp	Ala	Leu	Arg	Leu	Asp	Thr	Leu	Lys	Pro	Ala	Glu	Asp	Glu	Ala	Ala
			20					25					30		
Ala	Leu	Leu	His	Asn	Ala	Lys	Glu	Gln	Ala	Lys	Arg	Ile	Ile	Gln	Glu
		35					40					45			
Ala	Gln	Glu	Glu	Ala	Arg	Lys	Ile	Leu	Glu	Thr	Ala	Glu	Glu	Arg	Ala
	50					55					60				
His	Gln	Lys	Ile	Lys	Gln	Gly	Glu	Val	Ala	Leu	Ser	Gln	Ala	Gly	Lys
65					70					75				80	
Arg	Ala	Leu	Glu	Ala	Leu	Lys	Gln	Ala	Val	Glu	Asn	Lys	Ile	Phe	Arg
				85					90					95	
Glu	Ser	Leu	Val	Glu	Trp	Leu	Glu	His	Val	Thr	Thr	Asp	Pro	Glu	Val
			100					105					110		
Ser	Thr	Lys	Leu	Ile	Gln	Ala	Leu	Val	Gln	Ala	Leu	Glu	Ala	Gln	Gly
		115				120						125			
Val	Ser	Gly	Asn	Leu	Thr	Ala	Tyr	Ile	Gly	Lys	His	Val	Ser	Pro	Arg
	130					135					140				
Ala	Val	Asn	Glu	Leu	Leu	Gly	Lys	Ala	Val	Thr	Thr	Lys	Leu	Arg	Lys
145					150					155					160

Lys Ser Val Val Val Gly Ser Phe Val Gly Gly Val Gln Leu Lys Val  
                                   165                                  170                                  175  
 Glu Glu Lys Asn Trp Val Leu Asp Leu Ser Ser Ser Ala Leu Leu Glu  
                                   180                                  185                                  190  
 Ile Phe Thr Arg Tyr Leu Gln Lys Asp Phe Arg Glu Met Ile Phe Gln  
                                   195                                  200                                  205  
 Gly Ser  
                                   210

<210> 89  
 <211> 279  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 89  
 Ser His Glu Lys Ile Phe Ser Ile Phe Lys Val Val Val Met Thr Gln  
   1                                  5                                  10                                  15  
 Tyr Tyr Phe Leu Ser Ser Phe Leu Pro Thr Gln Leu Pro Glu Ser Val  
                                   20                                  25                                  30  
 Pro Leu Phe Ser Ile Ser Asp Leu Asp Asp Leu Leu Tyr Leu Asn Leu  
                                   35                                  40                                  45  
 Ser Glu Asn Asp Leu Cys Asn Tyr Gly Leu Leu Lys Arg Phe Phe Asp  
                                   50                                  55                                  60  
 Phe Glu Asn Phe Ala Phe Phe Trp Ala Gly Lys Pro Ile Pro Phe Ser  
  65                                  70                                  75                                  80  
 Phe Gly Glu Val Thr Gln Glu Asn Val Glu Arg Met Leu Ser Ser Gln  
                                   85                                  90                                  95  
 Gln Trp Ser Asp Asp Asn Asp Phe Glu Asp Phe Phe Lys Asp Phe Leu  
                                  100                                 105                                 110  
 Met Asn His Lys Ser Ser Gln Asp Arg Leu Asn His Phe Ser Asp Leu  
                                  115                                 120                                 125  
 Phe Arg Glu Phe Leu Ser Tyr His Gln Thr Asn Ser Ser Lys Phe Leu  
  130                                 135                                 140  
 Gln Asp Tyr Phe Arg Phe Gln Gln Gln Leu Arg Val Val Leu Ala Gly  
  145                                 150                                 155                                 160  
 Phe Arg Ala Arg Val Leu Asn Met Asp Val Ser Tyr Val Leu Arg Asp  
                                  165                                 170                                 175  
 Glu Asp Ser Ser Asp Pro Val Val Leu Glu Val Leu Met Gln Lys Asp  
                                  180                                 185                                 190  
 Ser Pro Asn Tyr Glu Leu Pro Glu Glu Phe Ser Asp Leu Gln Gly Val  
                                  195                                 200                                 205  
 Leu Asp Asp Tyr Gly Leu Leu Pro His Thr Leu Asn Arg Ala Leu Ala  
  210                                 215                                 220  
 Leu Tyr Gln Phe His Lys Leu Glu Gly Phe Cys Ser Asp Ser Tyr Phe  
  225                                 230                                 235                                 240  
 Asp Gly Asn Val Ile Leu Ala Arg Cys Ala Thr Tyr Met Phe Ala Ile  
                                  245                                 250                                 255  
 Arg Asn Ser Leu Ala Ser Val Glu Lys Gly Arg Glu Ile Ile Asn His  
                                  260                                 265                                 270  
 Ile Glu Lys Ala Ile Lys Trp  
                                  275

<210> 90  
 <211> 598  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 90  
 Ser Tyr Arg Lys Gly Asn Gln Met Val Thr Val Ser Glu Gln Thr Ala  
   1                                  5                                  10                                  15

Gln Gly His Val Ile Glu Ala Tyr Gly Asn Leu Leu Arg Val Arg Phe  
 20 25 30  
 Asp Gly Tyr Val Arg Gln Gly Glu Val Ala Tyr Val Asn Val Asp Asn  
 35 40 45  
 Thr Trp Leu Lys Ala Glu Val Ile Glu Val Ala Asp Gln Glu Val Lys  
 50 55 60  
 Val Gln Val Phe Glu Asp Thr Gln Gly Ala Cys Arg Gly Ala Leu Val  
 65 70 75 80  
 Thr Phe Ser Gly His Leu Leu Glu Ala Glu Leu Gly Pro Gly Leu Leu  
 85 90 95  
 Gln Gly Ile Phe Asp Gly Leu Gln Asn Arg Leu Glu Val Leu Ala Glu  
 100 105 110  
 Asp Ser Ser Phe Leu Gln Arg Gly Lys His Val Asn Ala Ile Ser Asp  
 115 120 125  
 His Asn Leu Trp Asn Tyr Thr Pro Val Ala Ser Val Gly Asp Thr Leu  
 130 135 140  
 Arg Arg Gly Asp Leu Leu Gly Thr Val Pro Glu Gly Arg Phe Thr His  
 145 150 155 160  
 Lys Ile Met Val Pro Phe Ser Cys Phe Gln Glu Val Thr Leu Thr Trp  
 165 170 175  
 Val Ile Ser Glu Gly Thr Tyr Asn Ala His Thr Val Val Ala Lys Ala  
 180 185 190  
 Arg Asp Ala Gln Gly Lys Glu Cys Ala Phe Thr Met Val Gln Arg Trp  
 195 200 205  
 Pro Ile Lys Gln Ala Phe Ile Glu Gly Glu Lys Ile Pro Ala His Lys  
 210 215 220  
 Ile Met Asp Val Gly Leu Arg Ile Leu Asp Thr Gln Ile Pro Val Leu  
 225 230 235 240  
 Lys Gly Gly Thr Phe Cys Thr Pro Gly Pro Phe Gly Ala Gly Lys Thr  
 245 250 255  
 Val Leu Gln His His Leu Ser Lys Tyr Ala Ala Val Asp Ile Val Ile  
 260 265 270  
 Leu Cys Ala Cys Gly Glu Arg Ala Gly Glu Val Val Glu Val Leu Gln  
 275 280 285  
 Glu Phe Pro His Leu Ile Asp Pro His Thr Gly Lys Ser Leu Met His  
 290 295 300  
 Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met Pro Val Ala Ala Arg  
 305 310 315 320  
 Glu Ser Ser Ile Tyr Leu Gly Val Thr Ile Ala Glu Tyr Tyr Arg Gln  
 325 330 335  
 Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser Thr Ser Arg Trp Ala  
 340 345 350  
 Gln Ala Leu Arg Glu Ile Ser Gly Arg Leu Glu Glu Ile Pro Gly Glu  
 355 360 365  
 Glu Ala Phe Pro Ala Tyr Leu Ser Ser Arg Ile Ala Ala Phe Tyr Glu  
 370 375 380  
 Arg Gly Gly Ala Ile Thr Thr Lys Asp Gly Ser Glu Gly Ser Leu Thr  
 385 390 395 400  
 Ile Cys Gly Ala Val Ser Pro Ala Gly Gly Asn Phe Glu Glu Pro Val  
 405 410 415  
 Thr Gln Ser Thr Leu Ala Val Val Gly Ala Phe Cys Gly Leu Ser Lys  
 420 425 430  
 Ala Arg Ala Asp Ala Arg Arg Tyr Pro Ser Ile Asp Pro Leu Ile Ser  
 435 440 445  
 Trp Ser Lys Tyr Leu Asn Gln Val Gly Gln Ile Leu Glu Glu Lys Val  
 450 455 460  
 Ser Gly Trp Gly Gly Ala Val Lys Lys Ala Ala Gln Phe Leu Glu Lys  
 465 470 475 480  
 Gly Ser Glu Ile Gly Lys Arg Met Glu Val Val Gly Glu Glu Gly Val  
 485 490 495

Ser Met Glu Asp Met Glu Ile Tyr Leu Lys Ala Glu Leu Tyr Asp Phe  
                   500                                  505                                  510  
 Cys Tyr Leu Gln Gln Asn Ala Phe Asp Pro Val Asp Cys Tyr Cys Pro  
                   515                                  520                                  525  
 Phe Glu Arg Gln Ile Glu Leu Phe Ser Leu Ile Ser Arg Ile Phe Asp  
                   530                                  535                                  540  
 Ala Lys Phe Val Phe Asp Ser Pro Asp Asp Ala Arg Ser Phe Phe Leu  
 545                                  550                                  555                                  560  
 Glu Leu Gln Ser Lys Ile Lys Thr Leu Asn Gly Leu Lys Phe Leu Ser  
                                   565                                  570                                  575  
 Glu Glu Tyr His Glu Ser Lys Glu Val Ile Val Arg Leu Leu Glu Lys  
                                   580                                  585                                  590  
 Thr Met Val Gln Met Ala  
                   595

<210> 91  
 <211> 452  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 91  
 Leu Asp Cys Trp Lys Lys Gln Trp Tyr Lys Trp Arg Lys Asp Met Gln  
   1                                  5                                  10                                  15  
 Thr Ile Tyr Thr Lys Ile Thr Asp Ile Lys Gly Asn Leu Ile Thr Val  
                   20                                  25                                  30  
 Glu Ala Glu Gly Ala Arg Leu Gly Glu Leu Ala Thr Ile Thr Arg Ser  
                   35                                  40                                  45  
 Asp Gly Arg Ser Ser Tyr Ala Ser Val Leu Arg Phe Asp Leu Lys Lys  
                   50                                  55                                  60  
 Val Thr Leu Gln Val Phe Gly Gly Thr Ser Gly Leu Ser Thr Gly Asp  
 65                                  70                                  75                                  80  
 His Val Thr Phe Leu Gly Arg Pro Met Glu Val Thr Phe Gly Ser Ser  
                                   85                                  90                                  95  
 Leu Leu Gly Arg Arg Leu Asn Gly Ile Gly Lys Pro Ile Asp Asn Glu  
                   100                                  105                                  110  
 Gly Glu Cys Phe Gly Glu Pro Ile Glu Ile Ala Thr Pro Thr Phe Asn  
                   115                                  120                                  125  
 Pro Val Cys Arg Ile Val Pro Arg Ser Met Val Arg Thr Asn Ile Pro  
                   130                                  135                                  140  
 Met Ile Asp Val Phe Asn Cys Leu Val Lys Ser Gln Lys Ile Pro Ile  
 145                                  150                                  155                                  160  
 Phe Ser Ser Ser Gly Glu His His Asn Ala Leu Leu Met Arg Ile Ala  
                                   165                                  170                                  175  
 Ala Gln Thr Asp Ala Asp Ile Val Val Ile Gly Gly Met Gly Leu Thr  
                   180                                  185                                  190  
 Phe Val Asp Tyr Ser Phe Phe Val Glu Glu Ser Lys Lys Leu Gly Phe  
                   195                                  200                                  205  
 Ala Asp Lys Cys Val Met Phe Ile His Lys Ala Val Asp Ala Pro Val  
                   210                                  215                                  220  
 Glu Cys Val Leu Val Pro Asp Met Ala Leu Ala Cys Ala Glu Lys Phe  
 225                                  230                                  235                                  240  
 Ala Val Glu Glu Lys Lys Asn Val Leu Val Leu Leu Thr Asp Met Thr  
                   245                                  250                                  255  
 Ala Phe Ala Asp Ala Leu Lys Glu Ile Ser Ile Thr Met Asp Gln Ile  
                   260                                  265                                  270  
 Pro Ala Asn Arg Gly Tyr Pro Gly Ser Leu Tyr Ser Asp Leu Ala Leu  
                   275                                  280                                  285  
 Arg Tyr Glu Lys Ala Val Glu Ile Ala Asp Gly Gly Ser Ile Thr Leu  
                   290                                  295                                  300  
 Ile Thr Val Thr Thr Met Pro Ser Asp Asp Ile Thr His Pro Val Pro  
 305                                  310                                  315                                  320

Asp Asn Thr Gly Tyr Ile Thr Glu Gly Gln Phe Tyr Leu Arg Asn Asn  
                           325                          330                          335  
 Arg Ile Asp Pro Phe Gly Ser Leu Ser Arg Leu Lys Gln Leu Val Ile  
                           340                          345                          350  
 Gly Lys Val Thr Arg Glu Asp His Gly Asp Leu Ala Asn Ala Leu Ile  
                           355                          360                          365  
 Arg Leu Tyr Ala Asp Ser Arg Lys Ala Thr Glu Arg Met Ala Met Gly  
                           370                          375                          380  
 Phe Lys Leu Ser Asn Trp Asp Lys Lys Leu Leu Ala Phe Ser Glu Leu  
 385                          390                          395                          400  
 Phe Glu Thr Arg Leu Met Ser Leu Glu Val Asn Ile Pro Leu Glu Glu  
                           405                          410                          415  
 Ala Leu Asp Ile Gly Trp Lys Ile Leu Ala Gln Ser Phe Thr Ser Glu  
                           420                          425                          430  
 Glu Val Gly Ile Lys Ala Gln Leu Ile Asn Lys Tyr Trp Pro Lys Ala  
                           435                          440                          445  
 Cys Leu Ser Lys  
 450

<210> 92  
 <211> 214  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 92  
 Val Leu Ala Lys Ser Met Ser Val Gln Val Lys Leu Thr Lys Asn Ser  
 1                          5                          10                          15  
 Phe Arg Leu Glu Lys Gln Lys Leu Ala Arg Leu Gln Thr Tyr Leu Pro  
                           20                          25                          30  
 Thr Leu Lys Leu Lys Lys Ala Leu Leu Gln Ala Glu Val Gln Asn Ala  
                           35                          40                          45  
 Val Lys Asp Ala Ala Glu Cys Asp Lys Asp Tyr Val Gln Ala Tyr Glu  
 50                          55                          60  
 Arg Ile Tyr Ala Phe Ala Glu Leu Phe Ser Ile Pro Leu Cys Thr Asp  
 65                          70                          75                          80  
 Cys Val Glu Lys Ser Phe Glu Ile Gln Ser Ile Asp Asn Asp Phe Glu  
                           85                          90                          95  
 Asn Ile Ala Gly Val Glu Val Pro Ile Val Arg Glu Val Thr Leu Phe  
                           100                          105                          110  
 Pro Ala Ser Tyr Ser Leu Leu Gly Thr Pro Ile Trp Leu Asp Thr Met  
                           115                          120                          125  
 Leu Ser Ala Ser Lys Glu Leu Val Val Lys Lys Val Met Ala Glu Val  
                           130                          135                          140  
 Ser Lys Glu Arg Leu Lys Ile Leu Glu Glu Glu Leu Arg Ala Val Ser  
 145                          150                          155                          160  
 Ile Arg Val Asn Leu Phe Glu Lys Lys Leu Ile Pro Glu Thr Thr Lys  
                           165                          170                          175  
 Ile Leu Lys Lys Ile Ala Val Phe Leu Ser Asp Arg Ser Ile Thr Asp  
                           180                          185                          190  
 Val Gly Gln Val Lys Met Ala Lys Lys Lys Ile Glu Leu Arg Lys Ala  
                           195                          200                          205  
 Arg Gly Asp Glu Cys Val  
 210

<210> 93  
 <211> 660  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 93

Val	Arg	Leu	Asn	Ile	His	Lys	Tyr	Leu	Phe	Ile	Gly	Arg	Asn	Lys	Ala
1				5					10					15	
Asp	Phe	Phe	Ser	Ala	Ser	Arg	Glu	Leu	Gly	Val	Val	Glu	Phe	Ile	Ser
			20					25					30		
Lys	Lys	Cys	Phe	Ile	Thr	Thr	Glu	Gln	Gly	His	Arg	Phe	Val	Glu	Cys
		35					40					45			
Leu	Lys	Val	Phe	Asp	His	Leu	Glu	Ala	Glu	Tyr	Ser	Leu	Glu	Ala	Leu
	50					55					60				
Glu	Phe	Val	Lys	Asp	Glu	Ser	Val	Ser	Val	Glu	Asp	Ile	Val	Ser	Glu
65					70					75					80
Val	Leu	Thr	Leu	Asn	Lys	Glu	Ile	Lys	Gly	Leu	Leu	Glu	Thr	Val	Lys
				85					90					95	
Ala	Leu	Arg	Lys	Glu	Ile	Val	Arg	Val	Lys	Pro	Leu	Gly	Ala	Phe	Ser
			100					105					110		
Ser	Ser	Glu	Ile	Ala	Glu	Leu	Ser	Arg	Lys	Thr	Gly	Ile	Ser	Leu	Arg
		115					120					125			
Phe	Phe	Tyr	Arg	Thr	His	Lys	Asp	Asn	Glu	Asp	Leu	Glu	Glu	Asp	Ser
	130					135					140				
Pro	Asn	Val	Phe	Tyr	Leu	Ser	Thr	Ala	Tyr	Asn	Phe	Asp	Tyr	Tyr	Leu
145					150					155					160
Val	Leu	Gly	Val	Val	Asp	Leu	Pro	Arg	Asp	Arg	Tyr	Thr	Glu	Ile	Glu
				165					170					175	
Ala	Pro	Arg	Ser	Val	Asn	Glu	Leu	Gln	Val	Asp	Leu	Ala	Asn	Leu	Gln
			180					185				190			
Arg	Glu	Ile	Arg	Asn	Arg	Ser	Asp	Arg	Leu	Cys	Asp	Leu	Tyr	Ala	Tyr
	195					200					205				
Arg	Arg	Glu	Val	Leu	Arg	Gly	Leu	Cys	Asn	Tyr	Asp	Asn	Glu	Gln	Arg
	210					215					220				
Leu	His	Gln	Ala	Lys	Glu	Cys	Cys	Glu	Asp	Leu	Phe	Asp	Gly	Lys	Val
225					230					235					240
Phe	Ala	Val	Ala	Gly	Trp	Val	Ile	Val	Asp	Arg	Ile	Lys	Glu	Leu	Gln
				245					250					255	
Ser	Leu	Cys	Asn	Arg	Tyr	Gln	Ile	Tyr	Met	Glu	Arg	Val	Pro	Val	Asp
			260					265				270			
Pro	Asp	Glu	Thr	Ile	Pro	Thr	Tyr	Leu	Glu	Asn	Lys	Gly	Val	Gly	Met
	275					280						285			
Met	Gly	Glu	Asp	Leu	Val	Gln	Ile	Tyr	Asp	Thr	Pro	Ala	Tyr	Ser	Asp
	290					295					300				
Lys	Asp	Pro	Ser	Thr	Trp	Val	Phe	Phe	Ala	Phe	Val	Leu	Phe	Phe	Ser
305					310					315					320
Met	Ile	Val	Asn	Asp	Ala	Gly	Tyr	Gly	Leu	Phe	Leu	Met	Ser	Ser	
			325						330				335		
Leu	Leu	Phe	Ser	Trp	Lys	Phe	Arg	Arg	Lys	Met	Lys	Phe	Ser	Lys	His
			340					345				350			
Leu	Ser	Arg	Met	Leu	Lys	Met	Thr	Ala	Ile	Leu	Gly	Leu	Gly	Cys	Ile
		355					360					365			
Cys	Trp	Gly	Thr	Thr	Thr	Thr	Ser	Phe	Phe	Gly	Met	Ser	Phe	Ser	Lys
	370					375					380				
Thr	Ser	Val	Phe	Arg	Glu	Tyr	Ser	Met	Thr	His	Val	Leu	Ala	Leu	Lys
385					390					395					400
Lys	Ala	Glu	Tyr	Tyr	Leu	Gln	Met	Arg	Pro	Lys	Ala	Tyr	Lys	Glu	Leu
				405					410					415	
Thr	Asn	Glu	Tyr	Pro	Ser	Leu	Lys	Ala	Ile	Arg	Asp	Pro	Lys	Ala	Phe
		420						425				430			
Leu	Leu	Ala	Thr	Glu	Ile	Gly	Ser	Ala	Gly	Ile	Glu	Ser	Arg	Tyr	Val
		435					440					445			
Val	Tyr	Asp	Lys	Phe	Ile	Asp	Asn	Ile	Leu	Met	Glu	Leu	Ala	Leu	Phe
	450					455					460				
Ile	Gly	Val	Val	His	Leu	Ser	Leu	Gly	Met	Leu	Arg	Tyr	Leu	Arg	Tyr
465					470					475					480



Arg Tyr Ser Gly Ile Gly Trp Ile Leu Phe Met Val Ser Ala Tyr Leu  
 485 490 495  
 Tyr Val Pro Ile Tyr Leu Gly Thr Val Ser Leu Ile His Tyr Leu Phe  
 500 505 510  
 His Val Pro Tyr Glu Leu Gly Gly Gln Ile Gly Tyr Tyr Gly Met Phe  
 515 520 525  
 Gly Gly Ile Gly Leu Ala Val Val Leu Ala Met Ile Gln Arg Ser Trp  
 530 535 540  
 Arg Gly Val Glu Glu Ile Ile Ser Val Ile Gln Val Phe Ser Asp Val  
 545 550 555 560  
 Leu Ser Tyr Leu Arg Ile Tyr Ala Leu Gly Leu Ala Gly Ala Met Met  
 565 570 575  
 Gly Ala Thr Phe Asn Gln Met Gly Ala Arg Leu Pro Met Leu Leu Gly  
 580 585 590  
 Ser Ile Val Ile Leu Leu Gly His Ser Val Asn Ile Ile Leu Ser Ile  
 595 600 605  
 Met Gly Gly Val Ile His Gly Leu Arg Leu Asn Phe Ile Glu Trp Tyr  
 610 615 620  
 His Tyr Ser Phe Asp Gly Gly Gly Arg Pro Leu Arg Pro Leu Arg Lys  
 625 630 635 640  
 Ile Val Cys Ser Glu Asp Ala Glu Ala Ser Gly Ile His Leu Asp Asn  
 645 650 655  
 Asn Ser Ile Val  
 660

<210> 94  
 <211> 151  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 94  
 Arg Tyr Leu Lys Gly Ala His Glu Val Ser Met Ile Asp Met Ser Val  
 1 5 10 15  
 Val Gly Pro Ala Leu Val Leu Gly Leu Ala Met Ile Gly Ser Ala Ile  
 20 25 30  
 Gly Cys Gly Met Ala Gly Val Ala Ser His Ala Val Met Ser Arg Ile  
 35 40 45  
 Asp Glu Gly His Gly Lys Leu Ile Gly Met Ser Ala Met Pro Ser Ser  
 50 55 60  
 Gln Ser Ile Tyr Gly Phe Ile Leu Met Leu Leu Met Gln Ala Ala Ile  
 65 70 75 80  
 Lys Asn Gly Thr Leu Ser Pro Val Gly Gly Ile Ala Ile Gly Leu Ser  
 85 90 95  
 Val Gly Ala Ala Leu Leu Val Ser Ser Val Met Gln Gly Lys Cys Cys  
 100 105 110  
 Val Ser Gly Ile Gln Ala Tyr Ala Arg Ser Ser Ser Ile Tyr Gly Lys  
 115 120 125  
 Cys Tyr Ala Ala Ile Gly Ile Val Glu Ser Phe Ser Leu Phe Ala Val  
 130 135 140  
 Val Phe Ala Leu Leu Leu Leu  
 145 150

<210> 95  
 <211> 192  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 95  
 Cys Lys Ala Ser Val Val Ser Ala Glu Phe Lys Leu Met Leu Asp Leu  
 1 5 10 15

Arg	Gln	Tyr	Met	Gly	Ser	Val	Met	Gln	Arg	Leu	Gly	Leu	Ser	Asn	Leu
			20					25					30		
Phe	His	Cys	Leu	Leu	Leu	Phe	Leu	Arg	Tyr	Tyr	Tyr	Ser	Lys	Leu	Val
		35					40					45			
Phe	Gly	Leu	Thr	Val	Leu	Leu	Ala	Ala	Ile	Ser	Val	Ile	Cys	Leu	Leu
	50					55					60				
Gly	Cys	Ser	Glu	Pro	Ser	Leu	Ser	Ser	Phe	Thr	Glu	Tyr	Val	Gly	Pro
65					70					75					80
Glu	Tyr	Ser	Ala	Ala	Gln	Leu	Ser	Ile	Glu	Gln	Ser	Cys	His	Asp	
			85					90					95		
Glu	Val	Tyr	Gly	Gln	Gln	Val	Val	Val	Thr	Trp	Ser	Leu	Pro	Ser	Arg
			100					105					110		
Met	Arg	Lys	Cys	Leu	Pro	Val	Thr	Leu	Tyr	Leu	Trp	Val	Tyr	Tyr	Gly
		115					120					125			
Asn	Gly	Lys	Val	Glu	Lys	Leu	Thr	Tyr	Glu	Val	Asn	Gln	Ser	Ala	Gly
	130					135					140				
Tyr	Arg	Val	Tyr	Cys	Leu	Lys	Gly	Leu	Glu	Tyr	Lys	Glu	Leu	Gln	Gly
145					150					155					160
Ile	Ile	Ser	Tyr	Arg	Val	Ala	Leu	Cys	Ser	Gly	Asn	Gln	Glu	Ile	Val
				165					170					175	
Ser	Arg	Arg	His	His	Leu	Trp	Met	Glu	Val	Ile	Ser	Leu	Asp	Ser	Pro
			180					185					190		

<210> 96

<211> 956

<212> PRT

<213> Chlamydia pneumoniae

<400> 96

Val	Tyr	Arg	Val	Phe	Leu	Ser	Arg	Asp	His	Lys	Phe	Gly	Leu	Arg	Ile
1				5					10					15	
Met	Thr	Thr	Glu	Asp	Phe	Pro	Lys	Ala	Tyr	Asn	Phe	Gln	Asp	Thr	Glu
			20					25					30		
Pro	Glu	Leu	Tyr	Val	Phe	Trp	Glu	Lys	Asn	Gly	Met	Phe	Lys	Ala	Glu
		35					40					45			
Ala	Ser	Ser	Asp	Lys	Pro	Pro	Tyr	Ser	Val	Ile	Met	Pro	Pro	Pro	Asn
	50					55					60				
Val	Thr	Gly	Val	Leu	His	Met	Gly	His	Ala	Leu	Val	Asn	Thr	Leu	Gln
65					70					75					80
Asp	Val	Leu	Val	Arg	Tyr	Lys	Arg	Met	Ser	Gly	Phe	Glu	Val	Cys	Trp
			85					90						95	
Ile	Pro	Gly	Thr	Asp	His	Ala	Gly	Ile	Ala	Thr	Gln	Ala	Val	Val	Glu
		100						105					110		
Arg	His	Leu	Gln	Ala	Ser	Glu	Gly	Lys	Arg	Arg	Thr	Asp	Tyr	Ser	Arg
		115					120					125			
Glu	Asp	Phe	Leu	Lys	His	Ile	Trp	Ala	Trp	Lys	Glu	Lys	Ser	Glu	Lys
	130					135					140				
Val	Val	Leu	Ser	Gln	Leu	Arg	Gln	Leu	Gly	Cys	Ser	Cys	Asp	Trp	Asp
145					150					155					160
Arg	Lys	Arg	Phe	Thr	Met	Glu	Pro	Leu	Ala	Asn	Arg	Ala	Val	Lys	Lys
			165					170						175	
Ala	Phe	Lys	Thr	Leu	Phe	Glu	Asn	Gly	Tyr	Ile	Tyr	Arg	Gly	Tyr	Tyr
			180					185					190		
Leu	Val	Asn	Trp	Asp	Pro	Val	Leu	Gln	Thr	Ala	Leu	Ala	Asp	Asp	Glu
		195					200					205			
Val	Glu	Tyr	Glu	Glu	Lys	Asp	Gly	Trp	Leu	Tyr	Tyr	Ile	Arg	Tyr	Arg
	210					215					220				
Met	Val	Gly	Ser	Gln	Glu	Ser	Ile	Val	Val	Ala	Thr	Thr	Arg	Pro	Glu
225					230					235					240
Thr	Ser	Leu	Gly	Asp	Thr	Gly	Ile	Ala	Val	Ser	Pro	Asn	Asp	Glu	Arg
				245					250					255	



Leu Ile Asn Val Leu Gly Val Leu His Pro Val Ala Pro Phe Ile Thr  
                   740                  745                  750  
 Glu Ser Leu Phe Leu Arg Ile Gln Asp Thr Leu Gly Ala Leu Pro Glu  
                   755                  760                  765  
 Gly Asp Gly Asp Ala Phe Thr Gly His Ala Leu Arg Met Leu Arg Ser  
                   770                  775                  780  
 Arg Ala Cys Met Glu Ala Pro Tyr Pro Lys Ala Phe Asp Val Lys Ile  
 785                  790                  795                  800  
 Pro Gln Asp Leu Arg Glu Ser Phe Thr Leu Ala Gln Arg Leu Val Tyr  
                   805                  810                  815  
 Thr Ile Arg Asn Ile Arg Gly Glu Met Gln Leu Asp Pro Arg Leu His  
                   820                  825                  830  
 Leu Lys Ala Phe Val Val Cys Ser Asp Thr Thr Glu Ile Gln Ser Cys  
                   835                  840                  845  
 Ile Pro Ile Leu Gln Ala Leu Gly Gly Leu Glu Ser Ile Gln Leu Leu  
                   850                  855                  860  
 Asp Lys Glu Pro Glu Lys Gly Leu Tyr Ser Phe Gly Val Val Asp Thr  
 865                  870                  875                  880  
 Ile Arg Leu Gly Ile Phe Val Pro Glu Glu His Leu Leu Lys Glu Lys  
                   885                  890                  895  
 Gly Arg Leu Glu Lys Glu Arg Val Arg Leu Glu Arg Ala Val Glu Asn  
                   900                  905                  910  
 Leu Glu Arg Leu Leu Gly Asp Glu Ser Phe Cys Gln Lys Ala Asn Pro  
                   915                  920                  925  
 Asn Leu Val Val Ala Lys Gln Glu Ala Leu Lys Asn Asn Arg Ile Glu  
                   930                  935                  940  
 Leu Gln Gly Ile Leu Asp Lys Leu Ala Ser Phe Ala  
 945                  950                  955

<210> 97

<211> 945

<212> PRT

<213> Chlamydia pneumoniae

<400> 97

Ala Cys Ile Val Cys Leu Asp Arg Glu Asp Gln Arg Ser Leu Glu Arg  
 1                  5                  10                  15  
 Tyr Asp Ile Val Arg Ile Ile Gly Lys Gly Gly Met Gly Glu Val Tyr  
                   20                  25                  30  
 Leu Ala Tyr Asp Pro Val Cys Ser Arg Lys Val Ala Leu Lys Lys Ile  
                   35                  40                  45  
 Arg Glu Asp Leu Ala Glu Asn Pro Leu Leu Lys Arg Arg Phe Leu Arg  
                   50                  55                  60  
 Glu Ala Arg Ile Ala Ala Asp Leu Ile His Pro Gly Val Val Pro Val  
 65                  70                  75                  80  
 Tyr Thr Ile Tyr Ser Glu Lys Asp Pro Val Tyr Tyr Thr Met Pro Tyr  
                   85                  90                  95  
 Ile Glu Gly Tyr Thr Leu Lys Thr Leu Lys Ser Val Trp Gln Lys  
                   100                  105                  110  
 Glu Ser Leu Ser Lys Glu Leu Ala Glu Lys Thr Ser Val Gly Ala Phe  
                   115                  120                  125  
 Leu Ser Ile Phe His Lys Ile Cys Cys Thr Ile Glu Tyr Val His Ser  
                   130                  135                  140  
 Arg Gly Ile Leu His Arg Asp Leu Lys Pro Asp Asn Ile Leu Leu Gly  
 145                  150                  155                  160  
 Leu Phe Ser Glu Ala Val Ile Leu Asp Trp Gly Ala Ala Val Ala Cys  
                   165                  170                  175  
 Gly Glu Glu Glu Asp Leu Leu Asp Ile Asp Val Ser Lys Glu Glu Val  
                   180                  185                  190  
 Leu Ser Ser Arg Met Thr Ile Pro Gly Arg Ile Val Gly Thr Pro Asp  
                   195                  200                  205

Tyr	Met	Ala	Pro	Glu	Arg	Leu	Leu	Gly	His	Pro	Ala	Ser	Lys	Ser	Thr
210						215					220				
Asp	Ile	Tyr	Ala	Leu	Gly	Val	Val	Leu	Tyr	Gln	Met	Leu	Thr	Leu	Ser
225					230					235					240
Phe	Pro	Tyr	Arg	Arg	Lys	Lys	Gly	Lys	Lys	Ile	Val	Leu	Asp	Gly	Gln
				245					250					255	
Arg	Ile	Pro	Ser	Pro	Gln	Glu	Val	Ala	Pro	Tyr	Arg	Glu	Ile	Pro	Pro
			260					265					270		
Phe	Leu	Ser	Ala	Val	Val	Met	Arg	Met	Leu	Ala	Val	Asp	Pro	Gln	Glu
		275					280					285			
Arg	Tyr	Ser	Ser	Val	Thr	Glu	Leu	Lys	Glu	Asp	Ile	Glu	Ser	His	Leu
	290					295				300					
Lys	Gly	Ser	Pro	Lys	Trp	Thr	Leu	Thr	Thr	Ala	Leu	Pro	Pro	Lys	Lys
305					310					315					320
Ser	Ser	Ser	Trp	Lys	Leu	Asn	Glu	Pro	Ile	Leu	Leu	Ser	Lys	Tyr	Phe
				325					330					335	
Pro	Met	Leu	Glu	Val	Ser	Pro	Ala	Ser	Trp	Tyr	Ser	Leu	Ala	Ile	Ser
		340						345					350		
Asn	Ile	Glu	Ser	Phe	Ser	Glu	Met	Arg	Leu	Glu	Tyr	Thr	Leu	Ser	Lys
	355						360					365			
Lys	Gly	Leu	Asn	Glu	Gly	Phe	Gly	Ile	Leu	Leu	Pro	Thr	Ser	Glu	Asn
	370					375					380				
Ala	Leu	Gly	Gly	Asp	Phe	Tyr	Gln	Gly	Tyr	Gly	Phe	Trp	Leu	His	Ile
385					390					395					400
Lys	Glu	Arg	Thr	Leu	Ser	Val	Ser	Leu	Val	Lys	Asn	Ser	Leu	Glu	Ile
				405					410					415	
Gln	Arg	Cys	Ser	Gln	Asp	Leu	Glu	Ser	Asp	Lys	Glu	Thr	Phe	Leu	Ile
		420						425					430		
Ala	Leu	Glu	Gln	His	Asn	His	Ser	Leu	Ser	Leu	Phe	Val	Asp	Gly	Thr
	435						440					445			
Thr	Trp	Leu	Ile	His	Met	Asn	Tyr	Leu	Pro	Ser	Arg	Ser	Gly	Arg	Val
	450					455				460					
Ala	Ile	Ile	Val	Arg	Asp	Met	Glu	Asp	Ile	Leu	Glu	Asp	Ile	Gly	Ile
465					470				475						480
Phe	Glu	Ser	Ser	Gly	Ser	Leu	Arg	Val	Ser	Cys	Leu	Ala	Val	Pro	Asp
				485					490					495	
Ala	Phe	Leu	Ala	Glu	Lys	Leu	Tyr	Asp	Arg	Ala	Leu	Val	Leu	Tyr	Arg
		500						505					510		
Arg	Ile	Ala	Glu	Ser	Phe	Pro	Gly	Arg	Lys	Glu	Gly	Tyr	Glu	Ala	Arg
		515					520					525			
Phe	Arg	Ala	Gly	Ile	Thr	Val	Leu	Glu	Lys	Ala	Ser	Thr	Asp	Asn	Asn
	530					535					540				
Glu	Gln	Glu	Phe	Ala	Leu	Ala	Ile	Glu	Glu	Phe	Ser	Lys	Leu	His	Asp
545					550					555					560
Gly	Val	Ala	Ala	Pro	Leu	Glu	Tyr	Leu	Gly	Lys	Ala	Leu	Val	Tyr	Gln
				565					570					575	
Arg	Leu	Gln	Glu	Tyr	Asn	Glu	Glu	Ile	Lys	Ser	Leu	Leu	Leu	Ala	Leu
			580						585					590	
Lys	Arg	Tyr	Ser	Gln	His	Pro	Glu	Ile	Phe	Arg	Leu	Lys	Asp	His	Val
		595					600					605			
Val	Tyr	Arg	Leu	His	Glu	Ser	Phe	Tyr	Lys	Arg	Asp	Arg	Leu	Ala	Leu
	610					615					620				
Val	Phe	Met	Ile	Leu	Val	Leu	Glu	Ile	Ala	Pro	Gln	Ala	Ile	Thr	Pro
625					630					635					640
Gly	Gln	Glu	Glu	Lys	Ile	Leu	Val	Trp	Leu	Lys	Asp	Lys	Ser	Arg	Ala
				645					650					655	
Thr	Leu	Phe	Cys	Leu	Leu	Asp	Pro	Thr	Val	Leu	Glu	Leu	Arg	Ser	Ser
			660						665				670		
Lys	Met	Glu	Leu	Phe	Leu	Ser	Tyr	Trp	Ser	Gly	Phe	Ile	Pro	His	Leu
		675					680					685			

Asn	Ser	Leu	Phe	His	Arg	Ala	Trp	Asp	Gln	Ser	Asp	Val	Arg	Ala	Leu
690						695					700				
Ile	Glu	Ile	Phe	Tyr	Val	Ala	Cys	Asp	Leu	His	Lys	Trp	Gln	Phe	Leu
705					710					715					720
Ser	Ser	Cys	Ile	Asp	Ile	Phe	Lys	Glu	Ser	Leu	Glu	Asp	Gln	Lys	Ala
			725					730						735	
Thr	Glu	Glu	Ile	Val	Glu	Phe	Ser	Phe	Glu	Asp	Leu	Gly	Ala	Phe	Leu
			740					745					750		
Phe	Ala	Ile	Gln	Ser	Ile	Phe	Asn	Lys	Glu	Asp	Ala	Glu	Lys	Ile	Phe
		755					760					765			
Val	Ser	Asn	Asp	Gln	Leu	Ser	Pro	Ile	Leu	Leu	Val	Tyr	Ile	Phe	Asp
	770					775					780				
Leu	Phe	Ala	Asn	Arg	Ala	Leu	Leu	Glu	Ser	Gln	Gly	Glu	Ala	Ile	Phe
785				790						795					800
Gln	Ala	Leu	Asp	Leu	Ile	Arg	Ser	Lys	Val	Pro	Glu	Asn	Phe	Tyr	His
			805						810					815	
Asp	Tyr	Leu	Arg	Asn	His	Glu	Ile	Arg	Ala	His	Leu	Trp	Cys	Arg	Asn
			820					825					830		
Glu	Lys	Ala	Leu	Ser	Thr	Ile	Phe	Glu	Asn	Tyr	Thr	Glu	Lys	Gln	Leu
		835					840					845			
Lys	Asp	Glu	Gln	His	Glu	Leu	Phe	Val	Leu	Tyr	Gly	Cys	Tyr	Leu	Ala
		850				855					860				
Leu	Ile	Gln	Gly	Ala	Glu	Ala	Ala	Lys	Gln	His	Phe	Asp	Val	Cys	Arg
865					870					875					880
Glu	Asp	Arg	Ile	Phe	Pro	Ala	Ser	Leu	Leu	Ala	Arg	Asn	Tyr	Asn	Arg
			885					890						895	
Leu	Gly	Leu	Pro	Lys	Asp	Ala	Leu	Ser	Tyr	Gln	Glu	Arg	Arg	Leu	Leu
		900						905					910		
Leu	Arg	Gln	Lys	Phe	Leu	Tyr	Phe	His	Cys	Leu	Gly	Asn	His	Asp	Glu
		915					920					925			
Arg	Asp	Leu	Cys	Gln	Thr	Met	Tyr	His	Leu	Leu	Thr	Glu	Glu	Phe	Gln
	930					935					940				
Leu															
945															

<210> 98  
 <211> 1837  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 98															
Glu	Thr	Phe	Leu	Ser	Ile	Leu	Arg	Glu	Phe	Phe	Met	Lys	Ser	Leu	Pro
1				5					10					15	
Val	Tyr	Val	Ser	Gly	Ile	Lys	Val	Arg	Asn	Leu	Lys	Asn	Val	Ser	Ile
			20					25					30		
His	Phe	Asn	Ser	Glu	Glu	Ile	Val	Leu	Leu	Thr	Gly	Val	Ser	Gly	Ser
		35					40					45			
Gly	Lys	Ser	Ser	Ile	Ala	Phe	Asp	Thr	Leu	Tyr	Ala	Ala	Gly	Arg	Lys
	50					55					60				
Arg	Tyr	Ile	Ser	Thr	Leu	Pro	Thr	Phe	Phe	Ala	Thr	Thr	Ile	Thr	Thr
65					70					75					80
Leu	Pro	Asn	Pro	Lys	Val	Glu	Glu	Ile	His	Gly	Leu	Ser	Pro	Thr	Ile
			85						90					95	
Ala	Ile	Lys	Gln	Asn	His	Phe	Ser	His	Tyr	Ser	His	Ala	Thr	Val	Gly
			100					105					110		
Ser	Thr	Thr	Glu	Leu	Phe	Ser	His	Leu	Ala	Leu	Leu	Phe	Thr	Leu	Glu
		115					120					125			
Gly	Gln	Ala	Arg	Asp	Pro	Lys	Thr	Lys	Glu	Val	Leu	Asp	Leu	Tyr	Ser
	130					135					140				
Lys	Glu	Lys	Val	Leu	Ser	Thr	Ile	Met	Glu	Leu	Ser	Glu	Gly	Val	Gln
145					150					155					160

Ile	Ser	Ile	Leu	Ala	Pro	Leu	Leu	Arg	Lys	Asp	Ile	Ala	Ala	Ile	His	165	170	175
Glu	Tyr	Ala	Gln	Gly	Phe	Thr	Lys	Val	Arg	Cys	Asn	Gly	Thr	Ile		180	185	190
His	Pro	Ile	Tyr	Ser	Phe	Leu	Thr	Ser	Gly	Ile	Pro	Glu	Asp	Cys	Ser	195	200	205
Val	Asp	Ile	Val	Ile	Asp	Thr	Leu	Ile	Lys	Ser	Glu	Asn	Asn	Ile	Ala	210	215	220
Arg	Leu	Lys	Val	Ser	Leu	Phe	Thr	Ala	Leu	Glu	Phe	Gly	Glu	Gly	His	225	230	235
Cys	Ser	Val	Leu	Ser	Asp	Glu	Glu	Leu	Met	Thr	Phe	Ser	Thr	Lys	Gln	245	250	255
Gln	Ile	Asp	Asp	Val	Thr	Tyr	Thr	Pro	Leu	Thr	Gln	Gln	Leu	Phe	Ser	260	265	270
Pro	His	Ala	Leu	Glu	Ser	Arg	Cys	Ser	Leu	Cys	Gln	Gly	Ser	Gly	Ile	275	280	285
Phe	Ile	Ser	Ile	Asp	Asn	Pro	Leu	Leu	Ile	Asp	Glu	Asn	Leu	Ser	Ile	290	295	300
Lys	Glu	Asn	Cys	Cys	Ser	Phe	Ala	Gly	Asn	Cys	Ser	Ser	Tyr	Leu	Tyr	305	310	315
His	Thr	Ile	Tyr	Gln	Ala	Leu	Ala	Asp	Ala	Leu	Asn	Phe	Asn	Leu	Glu	325	330	335
Thr	Pro	Trp	Lys	Asp	Leu	Ser	Pro	Glu	Ile	Gln	Asn	Ile	Phe	Leu	Arg	340	345	350
Gly	Lys	Asn	Asn	Leu	Val	Leu	Pro	Val	Arg	Leu	Phe	Asp	Gln	Thr	Leu	355	360	365
Gly	Lys	Lys	Asn	Leu	Thr	Tyr	Lys	Val	Trp	Arg	Gly	Val	Leu	Asn	Asp	370	375	380
Ile	Gly	Asp	Lys	Val	Arg	Tyr	Thr	Thr	Lys	Pro	Ser	Arg	Tyr	Leu	Ser	385	390	395
Lys	Gly	Met	Ser	Ala	His	Ser	Cys	Ser	Leu	Cys	Lys	Gly	Thr	Gly	Leu	405	410	415
Gly	Asp	Tyr	Ala	Ser	Val	Ala	Thr	Trp	Glu	Gly	Lys	Thr	Phe	Thr	Glu	420	425	430
Phe	Gln	Gln	Met	Ser	Leu	Asn	Asn	Trp	His	Val	Phe	Phe	Ser	Lys	Val	435	440	445
Lys	Ser	Pro	Ser	Leu	Ser	Ile	Gln	Glu	Ile	Leu	Gln	Gly	Leu	Lys	Gln	450	455	460
Arg	Leu	Ser	Phe	Leu	Ile	Asp	Leu	Gly	Leu	Gly	Tyr	Leu	Thr	Pro	Asn	465	470	475
Arg	Ala	Leu	Ala	Thr	Leu	Ser	Gly	Gly	Glu	Gln	Glu	Arg	Thr	Ala	Ile	485	490	495
Ala	Lys	His	Leu	Gly	Gly	Glu	Leu	Phe	Gly	Ile	Thr	Tyr	Ile	Leu	Asp	500	505	510
Glu	Pro	Ser	Ile	Gly	Leu	His	Pro	Gln	Asp	Thr	Glu	Lys	Leu	Ile	Gly	515	520	525
Val	Ile	Lys	Lys	Leu	Arg	Asp	Gln	Gly	Asn	Thr	Val	Ile	Leu	Val	Glu	530	535	540
His	Glu	Glu	Arg	Met	Ile	Ser	Leu	Ala	Asp	Arg	Ile	Ile	Asp	Ile	Gly	545	550	555
Pro	Gly	Ala	Gly	Ile	Phe	Gly	Gly	Glu	Val	Leu	Phe	Asn	Gly	Lys	Pro	565	570	575
Glu	Asp	Phe	Leu	Met	Asn	Ser	Ser	Ser	Leu	Thr	Ala	Lys	Tyr	Leu	Arg	580	585	590
Gln	Glu	Leu	Thr	Ile	Pro	Ile	Pro	Glu	Ser	Arg	Glu	Ala	Pro	Thr	Ser	595	600	605
Trp	Leu	Leu	Leu	Thr	Glu	Ala	Thr	Ile	His	Asn	Leu	Lys	Asn	Leu	Ser	610	615	620
Ile	Arg	Leu	Pro	Leu	Ala	Arg	Leu	Ile	Gly	Val	Thr	Gly	Val	Ser	Gly	625	630	635

Ser Gly Lys Ser Ser Leu Ile Asn Asn Thr Leu Val Pro Ala Ile Glu  
 645 650 655  
 Ser Phe Leu Lys Gln Glu Asn Pro Lys Asn Leu His Phe Glu Trp Gly  
 660 665 670  
 Cys Ile Gly Arg Leu Ile His Ile Thr Arg Asp Leu Pro Gly Arg Ser  
 675 680 685  
 Gln Arg Ser Ile Pro Leu Thr Tyr Ile Lys Ala Phe Asp Asp Ile Arg  
 690 695 700  
 Glu Leu Phe Ala Ser Gln Pro Arg Ser Leu Arg Gln Gly Leu Thr Lys  
 705 710 715 720  
 Ala His Phe Ser Phe Asn Gln Pro Gln Gly Ala Cys Ile Gln Cys Gln  
 725 730 735  
 Gly Leu Gly Thr Met Thr Ile Ser Asp Asp Asp Thr Pro Ile Pro Cys  
 740 745 750  
 Ser Glu Cys Gln Gly Lys Arg Tyr His Ser Glu Val Leu Glu Ile Leu  
 755 760 765  
 Tyr Glu Gly Lys Asn Ile Ala Asp Ile Leu Asp Met Thr Ala Tyr Glu  
 770 775 780  
 Ala Glu Lys Phe Phe Ile Ser His Pro Lys Ile His Glu Lys Ile His  
 785 790 795 800  
 Ala Leu Cys Ser Leu Arg Leu Asp Tyr Leu Pro Leu Gly Arg Pro Leu  
 805 810 815  
 Ser Thr Leu Ser Gly Gly Glu Ile Gln Arg Leu Lys Leu Ala His Glu  
 820 825 830  
 Leu Leu Phe Ala Ser Pro Lys Gln Thr Leu Tyr Val Leu Asp Glu Pro  
 835 840 845  
 Thr Thr Gly Leu His Thr His Asp Ile Gln Ala Leu Ile Glu Val Leu  
 850 855 860  
 Leu Ser Leu Thr Tyr Leu Gly His Thr Val Leu Val Ile Glu His Asn  
 865 870 875 880  
 Met His Val Val Lys Val Cys Asp Tyr Val Leu Glu Leu Gly Pro Glu  
 885 890 895  
 Gly Gly Asp Leu Gly Gly Tyr Leu Leu Ala Ser Cys Thr Pro Lys Asp  
 900 905 910  
 Leu Ile Gln Leu Asn Thr Pro Thr Ala Lys Ala Leu Ala Pro Tyr Ile  
 915 920 925  
 Glu Gly Ser Leu Asp Ile Pro Val Val Lys Ser Glu Pro Pro Ser Ser  
 930 935 940  
 Pro Lys Ser Cys Asp Ile Leu Ile Lys Asp Ala Tyr Gln Asn Asn Leu  
 945 950 955 960  
 Lys His Ile Asp Leu Ala Leu Pro Arg Asn Ser Leu Ile Ala Ile Ala  
 965 970 975  
 Gly Pro Gly Ala Ser Gly Lys His Ser Leu Val Phe Asp Ile Leu Tyr  
 980 985 990  
 Ala Ser Gly Asn Ile Ala Tyr Ala Glu Leu Phe Pro Pro Tyr Ile Arg  
 995 1000 1005  
 Gln Gly Leu Leu Lys Glu Thr Pro Leu Pro Ser Val Gly Glu Val Lys  
 1010 1015 1020  
 Gly Leu Ser Pro Val Ile Ser Val Arg Lys Cys Ser Ser Asn Arg  
 1025 1030 1035 1040  
 Ser Tyr His Thr Ile Ala Ser Ala Leu Gly Leu Ser Asn Gly Leu Glu  
 1045 1050 1055  
 Lys Leu Phe Ala Ile Leu Gly Glu Pro Phe Ser Pro Leu Thr Glu Glu  
 1060 1065 1070  
 Lys Leu Ser Lys Thr Thr Pro Gln Thr Ile Ile Asp Ser Leu Leu Lys  
 1075 1080 1085  
 Ser Tyr Lys Asp Asp Tyr Val Thr Ile Thr Ser Pro Ile Pro Leu Gly  
 1090 1095 1100  
 Ser Asp Leu Glu Ile Phe Leu Gln Glu Lys Gln Lys Glu Gly Phe Ile  
 1105 1110 1115 1120



Lys Leu Tyr Ser Glu Gly Asn Leu Tyr Asp Leu Asp Glu Arg Leu Pro  
 1125 1130 1135  
 Leu Asn Leu Ile Glu Pro Ala Ile Val Ile Gln His Thr Lys Val Ser  
 1140 1145 1150  
 Pro Lys Asn Ser Ser Ser Leu Leu Ser Ala Ile Ser Val Ala Phe Ser  
 1155 1160 1165  
 Leu Ser Ser Glu Ile Trp Ile Tyr Ile Ser Gln Lys Lys Gln Arg Lys  
 1170 1175 1180  
 Leu Ser Tyr Ser Leu Gly Trp Lys Asp Lys Lys Gly Arg Leu Tyr Pro  
 1185 1190 1195 1200  
 Glu Ile Thr His Gln Leu Leu Ser Ser Asp His Pro Glu Gly Arg Cys  
 1205 1210 1215  
 Leu Thr Cys Gly Gly Arg Gly Glu Ile Leu Lys Ile Ser Leu Glu Glu  
 1220 1225 1230  
 His Lys Glu Lys Ile Ala His Tyr Thr Pro Leu Glu Phe Phe Ser Leu  
 1235 1240 1245  
 Phe Phe Pro Lys Ser Tyr Met Lys Pro Val Gln Lys Leu Leu Lys Asp  
 1250 1255 1260  
 Glu Asn Ala Ser Gln Pro Leu Lys Leu Leu Thr Thr Lys Glu Phe Leu  
 1265 1270 1275 1280  
 Asn Phe Cys Arg Gly Ser Ser Glu Phe Pro Gly Met Asn Ala Leu Leu  
 1285 1290 1295  
 Met Glu Gln Leu Asp Thr Glu Ser Asp Ser Pro Leu Ile Lys Pro Leu  
 1300 1305 1310  
 Leu Ala Leu Thr Ser Cys Pro Ala Cys Lys Gly Ser Gly Leu Asn Asp  
 1315 1320 1325  
 Tyr Ala Asn Tyr Val Arg Ile Asn Asn Thr Ser Leu Leu Asp Ile Tyr  
 1330 1335 1340  
 Gln Glu Asp Ala Thr Phe Leu Glu Ser Phe Leu Asn Thr Ile Gly Thr  
 1345 1350 1355 1360  
 Asp Asp Thr Arg Ser Ile Ile Gln Asp Leu Met Asn Arg Leu Thr Phe  
 1365 1370 1375  
 Ile Ser Lys Val Gly Leu Ser Tyr Ile Thr Leu Gly Gln Arg Gln Asp  
 1380 1385 1390  
 Thr Leu Ser Asp Gly Glu Asn Tyr Arg Leu His Leu Ala Lys Lys Ile  
 1395 1400 1405  
 Ser Ile Asn Leu Thr Asn Ile Val Tyr Leu Phe Glu Glu Pro Leu Ser  
 1410 1415 1420  
 Gly Leu His Pro Gln Asp Leu Pro Thr Ile Val Gln Leu Leu Lys Glu  
 1425 1430 1435 1440  
 Leu Val Ala Asn Asn Asn Thr Val Ile Ala Thr Asp Arg Ser Cys Ser  
 1445 1450 1455  
 Leu Ile Pro His Ala Asp His Ala Ile Phe Leu Gly Pro Gly Ser Gly  
 1460 1465 1470  
 Pro Gln Gly Gly Phe Leu Met Asp Ser Asp Thr Glu Val Cys Pro Ser  
 1475 1480 1485  
 Val Asp Leu His Ala Asn Val Pro Gln Thr Glu Val Cys Pro Lys Ala  
 1490 1495 1500  
 Pro Leu Ser Ile Ser Lys Ala Asn His Thr Arg Gly Ser Asp Arg Thr  
 1505 1510 1515 1520  
 Leu Lys Val Asn Leu Ser Ile His His Ile Gln Asn Leu Lys Val Ser  
 1525 1530 1535  
 Ala Pro Leu His Ala Leu Val Ala Ile Gly Gly Val Ser Gly Ser Gly  
 1540 1545 1550  
 Lys Thr Ser Leu Leu Leu Glu Gly Phe Lys Lys Gln Ala Glu Leu Leu  
 1555 1560 1565  
 Ile Ala Lys Gly Thr Thr Thr Phe Ser Asp Leu Val Val Ile Asp Ser  
 1570 1575 1580  
 His Pro Ile Ala Ser Ser Gln Arg Ser Asp Ile Ser Thr Tyr Phe Asp  
 1585 1590 1595 1600

Ile Ala Pro Ser Leu Arg Ala Phe Tyr Ala Ser Leu Thr Gln Ala Lys  
 1605 1610 1615  
 Ala Leu Asn Ile Ser Ser Thr Met Phe Ser Thr Asn Thr Lys Gln Gly  
 1620 1625 1630  
 Gln Cys Ser Asp Cys Gln Gly Leu Gly Tyr Gln Trp Ile Asp Arg Ala  
 1635 1640 1645  
 Phe Tyr Ala Leu Glu Lys Arg Pro Cys Pro Thr Cys Ser Gly Phe Arg  
 1650 1655 1660  
 Ile Gln Pro Leu Ala Gln Glu Val Leu Tyr Glu Gly Lys His Phe Gly  
 1665 1670 1675 1680  
 Glu Leu Leu His Thr Pro Ile Glu Thr Val Ala Leu Arg Phe Pro Phe  
 1685 1690 1695  
 Ile Lys Lys Ile Gln Lys Pro Leu Lys Ala Leu Leu Asp Ile Gly Leu  
 1700 1705 1710  
 Gly Tyr Leu Pro Ile Gly Gln Lys Leu Ser Ser Leu Ser Val Ser Glu  
 1715 1720 1725  
 Lys Thr Ala Leu Lys Thr Ala Tyr Phe Leu Tyr Gln Thr Pro Glu Thr  
 1730 1735 1740  
 Pro Thr Leu Phe Leu Ile Asp Glu Leu Phe Ser Ser Leu Asp Pro Ile  
 1745 1750 1755 1760  
 Lys Lys Gln His Leu Pro Glu Lys Leu Arg Ser Leu Ile Asn Ser Gly  
 1765 1770 1775  
 His Ser Val Ile Tyr Ile Asp His Asp Val Lys Leu Leu Lys Ser Ala  
 1780 1785 1790  
 Asp Tyr Leu Ile Glu Ile Gly Pro Gly Ser Gly Lys Gln Gly Gly Lys  
 1795 1800 1805  
 Leu Leu Phe Ser Gly Ser Pro Lys Asp Ile Tyr Ala Ser Lys Asp Ser  
 1810 1815 1820  
 Leu Leu Lys Lys Tyr Ile Cys Asn Glu Glu Leu Asp Ser  
 1825 1830 1835

<210> 99  
 <211> 486  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 99  
 Asp Ser Met Ile Thr Arg Thr Lys Ile Ile Cys Thr Ile Gly Pro Ala  
 1 5 10 15  
 Thr Asn Ser Pro Glu Met Leu Ala Lys Leu Leu Asp Ala Gly Met Asn  
 20 25 30  
 Val Ala Arg Leu Asn Phe Ser His Gly Ser His Glu Thr His Gly Gln  
 35 40 45  
 Ala Ile Gly Phe Leu Lys Glu Leu Arg Glu Gln Lys Arg Val Pro Leu  
 50 55 60  
 Ala Ile Met Leu Asp Thr Lys Gly Pro Glu Ile Arg Leu Gly Asn Ile  
 65 70 75 80  
 Pro Gln Pro Ile Ser Val Ser Gln Gly Gln Lys Leu Arg Leu Val Ser  
 85 90 95  
 Ser Asp Ile Asp Gly Ser Ala Glu Gly Gly Val Ser Leu Tyr Pro Lys  
 100 105 110  
 Gly Ile Phe Pro Phe Val Pro Glu Gly Ala Asp Val Leu Ile Asp Asp  
 115 120 125  
 Gly Tyr Ile His Ala Val Val Val Ser Ser Glu Ala Asp Ser Leu Glu  
 130 135 140  
 Leu Glu Phe Met Asn Ser Gly Leu Leu Lys Ser His Lys Ser Leu Ser  
 145 150 155 160  
 Ile Arg Gly Val Asp Val Ala Leu Pro Phe Met Thr Glu Lys Asp Ile  
 165 170 175  
 Ala Asp Leu Lys Phe Gly Val Glu Gln Asn Met Asp Val Val Ala Ala  
 180 185 190

Ser Phe Val Arg Tyr Gly Glu Asp Ile Glu Thr Met Arg Lys Cys Leu  
 195 200 205  
 Ala Asp Leu Gly Asn Pro Lys Met Pro Ile Ile Ala Lys Ile Glu Asn  
 210 215 220  
 Arg Leu Gly Val Glu Asn Phe Ser Lys Ile Ala Lys Leu Ala Asp Gly  
 225 230 235 240  
 Ile Met Ile Ala Arg Gly Asp Leu Gly Ile Glu Leu Ser Val Val Glu  
 245 250 255  
 Val Pro Asn Leu Gln Lys Met Met Ala Lys Val Ser Arg Glu Thr Gly  
 260 265 270  
 His Phe Cys Val Thr Ala Thr Gln Met Leu Glu Ser Met Ile Arg Asn  
 275 280 285  
 Val Leu Pro Thr Arg Ala Glu Val Ser Asp Ile Ala Asn Ala Ile Tyr  
 290 295 300  
 Asp Gly Ser Ser Ala Val Met Leu Ser Gly Glu Thr Ala Ser Gly Ala  
 305 310 315 320  
 His Pro Val Ala Ala Val Lys Ile Met Arg Ser Val Ile Leu Glu Thr  
 325 330 335  
 Glu Lys Asn Leu Ser His Asp Ser Phe Leu Lys Leu Asp Asp Ser Asn  
 340 345 350  
 Ser Ala Leu Gln Val Ser Pro Tyr Leu Ser Ala Ile Gly Leu Ala Gly  
 355 360 365  
 Ile Gln Ile Ala Glu Arg Ala Asp Ala Lys Ala Leu Ile Val Tyr Thr  
 370 375 380  
 Glu Ser Gly Ser Ser Pro Met Phe Leu Ser Lys Tyr Arg Pro Lys Phe  
 385 390 395 400  
 Pro Ile Ile Ala Val Thr Pro Ser Thr Ser Val Tyr Tyr Arg Leu Ala  
 405 410 415  
 Leu Glu Trp Gly Val Tyr Pro Met Leu Thr Gln Glu Ser Asp Arg Ala  
 420 425 430  
 Val Trp Arg His Gln Ala Cys Ile Tyr Gly Ile Glu Gln Gly Ile Leu  
 435 440 445  
 Ser Asn Tyr Asp Arg Ile Leu Val Leu Ser Arg Gly Ala Cys Met Glu  
 450 455 460  
 Glu Thr Asn Asn Leu Thr Leu Thr Ile Val Asn Asp Ile Leu Thr Gly  
 465 470 475 480  
 Ser Glu Phe Pro Glu Thr  
 485

<210> 100  
 <211> 468  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 100  
 Leu Val Gly Lys Lys Phe His Gln Ile Lys Arg Thr Ile Leu Glu Ala  
 1 5 10 15  
 Pro Leu Tyr Tyr Leu Val Ser Gly Ile Ile Ala Leu Cys Arg His Thr  
 20 25 30  
 Pro Arg Ser Phe Leu Thr Gly Leu Gly Lys Gly Phe Gly Phe Leu Ala  
 35 40 45  
 Phe Tyr Ile Ile Ser Asp Tyr Arg Lys Thr Ala Leu Thr Asn Leu Ala  
 50 55 60  
 Leu Ala Phe Pro Glu Lys Thr Phe Asp Glu Arg Tyr Lys Ile Ala Arg  
 65 70 75 80  
 Gln Ser Leu Gln His Leu Ile Ile Thr Leu Leu Glu Leu Leu Ala Ile  
 85 90 95  
 Glu Gln Leu Val Gly Asn Ile Asp Lys Leu Ile Thr Ile Val Thr Ser  
 100 105 110  
 Ser Arg Asn Pro Lys Gly Phe Ser Ser Glu Glu Val Ile Ser Asn Glu  
 115 120 125

Asp Leu Glu Glu Thr Phe Lys Asn Leu Gln Glu Lys Gln Gly Leu Ile  
 130 135 140  
 Leu Phe Cys Gly His Gln Ala Asn Trp Glu Leu Pro Phe Leu Tyr Ile  
 145 150 155 160  
 Thr Lys Asn Tyr Pro Gly Ile Ala Phe Ala Lys Ala Ile Lys Asn Gln  
 165 170 175  
 Arg Leu Ser Lys Lys Ile Phe Ala Leu Arg Glu Val Phe Lys Gly Lys  
 180 185 190  
 Ile Val Pro Pro Lys Asn Gly Ile Gln Gln Gly Ile Glu Ala Leu Asn  
 195 200 205  
 Gln Gly Lys Leu Val Gly Ile Val Gly Asp Gln Ala Leu Leu Met Ser  
 210 215 220  
 Ser Tyr Thr Tyr Pro Leu Phe Gly Ser Pro Ala Phe Thr Thr Thr Ser  
 225 230 235 240  
 Pro Ala Leu Leu Ala Tyr Lys Thr Gly Phe Pro Val Ile Ala Val Asn  
 245 250 255  
 Val Ser Arg Gln Ala Lys Gly Phe Glu Val Ile Pro Ser Ala Lys Leu  
 260 265 270  
 Tyr Ala Asn Lys Ser Leu Pro Met Lys Glu Ser Val Ala Ile Leu Met  
 275 280 285  
 Asp Gln Met Met Gly Phe Leu Glu Lys Gly Ile Ala Ser Gln Pro Glu  
 290 295 300  
 Gln Trp Met Trp Ile His Lys Arg Trp Lys Arg Lys Ile Ser Asn Val  
 305 310 315 320  
 Ile Lys Lys Lys Tyr Arg Tyr Ser His Ile Leu Val Phe Val Asp Gln  
 325 330 335  
 Val Ser Ser His Phe Ser Phe Leu Lys Ala Leu Ala Glu Cys Phe Ser  
 340 345 350  
 Gly Thr Thr Leu His Leu Ala Leu Gly Asn Ala Asp His Leu Glu Glu  
 355 360 365  
 Leu Gln Glu Gln Phe Pro Glu Tyr Ser Leu Ile Gln Leu Arg Asn Asp  
 370 375 380  
 Gln Asp Ile Leu Ala Leu Pro Asn Cys Tyr Pro Ala Ile Phe Asp Leu  
 385 390 395 400  
 Thr Asn Asn Leu Gln His Leu Tyr Lys His Phe Arg Lys Thr Gly Ser  
 405 410 415  
 Cys Ala Val Tyr Ser Lys Arg Phe Leu Glu Lys Ser Leu Asp His Pro  
 420 425 430  
 Gln Ala Pro Leu Lys Asn Ser Leu Arg Ile Phe Tyr Ser Lys Asn Leu  
 435 440 445  
 Lys Asp Lys Glu Arg Lys Asn Phe Lys Val Lys Ser Lys Gly Pro Arg  
 450 455 460  
 Leu Thr Val Glu  
 465

<210> 101  
 <211> 113  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 101  
 Tyr Tyr Cys Ala Ser Tyr Tyr Leu Lys Ile Ser Arg Phe Ala Ala Lys  
 1 5 10 15  
 His Ala Pro Glu Arg Asn Met Leu Asn Ser Ile Val Thr Thr Arg Thr  
 20 25 30  
 Arg Thr Ala Ala Thr Leu Leu Ile Pro Lys Val Ile Pro Glu Ala Pro  
 35 40 45  
 Ser Thr Pro Val Gln Ile Lys Met Ile Ser Ile Lys Glu Thr Ile Ala  
 50 55 60  
 Val Arg Ala Lys Ser Pro Ala Asp Thr Val Ala Thr Phe Ala Leu Asp  
 65 70 75 80

Ser Glu Leu Ser Glu Gln Gln Gln Thr Val Leu Ile Ala Ala Ser Lys  
85 90 95  
Pro Arg Pro Lys Gln Ser Ile Lys His Ile Lys Phe Pro Leu Thr Lys  
100 105 110  
Phe

<210> 102  
<211> 434  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 102  
Arg Thr Gln Lys Lys Thr Phe Ile Leu Leu Asp Leu Glu Thr Met Ile  
1 5 10 15  
Lys Phe Leu Ser Gln Leu Phe Ile Arg His Trp Pro Arg Lys Val Val  
20 25 30  
Ser Leu Gly Phe Ala Ile Ile Ile Trp Ile Leu Val Gly Gln Ser Val  
35 40 45  
Thr Ile Thr Arg Thr Leu Thr Asn Val Pro Val Arg Ile Val Asp Leu  
50 55 60  
His Pro Asp Gln Thr Val Leu Gly Leu Gln Lys Ser Gly Phe Leu Asn  
65 70 75 80  
Lys Lys Val Ser Leu Thr Ile Thr Gly Asn Lys Asn Thr Val Gln Asp  
85 90 95  
Leu Arg Pro Ser Asn Leu Glu Val Val Ile Ser Ala Ala Asn His Thr  
100 105 110  
Glu Ser Trp Ile Ala Thr Ile Asp Lys His Asn Leu Val Ser Val Asp  
115 120 125  
His Glu Ile Asn Ile Arg Lys Asp Ile His Ser Val Asp Ala Asn Asp  
130 135 140  
Ile Phe Val Arg Leu Thr Gln Tyr Val Thr Glu Asp Ile Leu Leu Thr  
145 150 155 160  
Ile Thr Lys Pro Ile Gly Ser Pro Pro Lys Gly Tyr Glu Tyr Leu Asp  
165 170 175  
Val Trp Pro Lys Tyr Leu Asn Gln Lys Val Ser Gly Pro Lys Glu Tyr  
180 185 190  
Ile Asn Ala Leu Lys Glu Gln Gly Leu Glu Leu Thr Phe Asn Leu Asn  
195 200 205  
Lys Ile Ser Phe Glu Glu Leu Glu Arg Asn Arg Ile Ala Gln Gly Ser  
210 215 220  
His Asp Glu Ile Ile Phe Pro Ile Pro Lys Glu Trp Lys Lys Ile Leu  
225 230 235 240  
Ile Pro Phe Glu Asn Thr Phe Met Asp Leu Asn Asp Pro Gln Ala Asp  
245 250 255  
Phe Leu Arg Leu Leu Phe Leu Lys Arg Glu Cys Ile Pro Leu Asn Leu  
260 265 270  
Asn Leu Pro Val Phe Leu Phe Phe Pro Val Thr Phe Ile Gln Thr Met  
275 280 285  
Asn Pro Leu Glu Tyr Ser Leu Asp Pro Val Pro Pro Ile Ile Leu Asn  
290 295 300  
His Gly Ile His Gln Ile Asn Ile Pro Leu Tyr Val Lys Asp Val Ser  
305 310 315 320  
Arg Gln Phe Leu Asp Val Val Lys Asn Asn Met Val Leu Thr Ile Val  
325 330 335  
Met Pro Ser Pro Gln Asp Pro Ser Ser Ile Asn Trp Ala Ile Glu Phe  
340 345 350  
Leu Asp Glu Lys Thr Leu Glu Asn Thr Phe Leu Gln Thr Ile Ile Ala  
355 360 365  
Gln Glu His Gly Ile Leu His Asp Ile Ala Leu Ile Asp Glu Ala Gly  
370 375 380

Ile Arg His Arg Phe Arg Glu Tyr Leu Arg Lys Leu Ala Leu Phe Thr  
 385 390 395 400  
 Ala Asp Gly Glu Pro Leu Asn Leu Ile Ala Glu Ile Lys Asn Asn Lys  
 405 410 415  
 Val Val Ile Gln Thr Lys Thr Lys Glu Thr Thr Lys Leu Tyr Lys Lys  
 420 425 430  
 Glu Trp

<210> 103  
 <211> 282  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 103  
 Pro Ser Thr Leu Cys Asn Phe Ser Gln Tyr Thr Thr Gln Gly Pro Ser  
 1 5 10 15  
 Lys Thr Met Pro Phe Asp Ile Thr Tyr Thr Thr Pro Leu Glu  
 20 25 30  
 Ile Ile Leu Ile Trp Val Met Leu Asn Tyr Leu Leu Lys Phe Phe Trp  
 35 40 45  
 Gly Thr Arg Ala Met Asp Val Val Phe Gly Leu Leu Ala Phe Leu Phe  
 50 55 60  
 Leu Phe Val Leu Ala Asp Lys Leu His Leu Pro Ile Ile Arg Arg Leu  
 65 70 75 80  
 Met Leu His Val Val Asn Ile Ala Ala Ile Val Val Phe Ile Ile Phe  
 85 90 95  
 Gln Pro Glu Ile Arg Leu Ala Leu Ser Arg Ile Arg Phe His Gly Lys  
 100 105 110  
 Lys Phe Phe Ile Asp Thr Gln Glu Gln Phe Val Glu Gln Leu Ala Ala  
 115 120 125  
 Ser Ile Tyr Gln Leu Ser Glu Arg Gln Ile Gly Ala Leu Val Val Leu  
 130 135 140  
 Glu Asn Lys Asp Ser Phe Asp Glu Tyr Leu Ser Phe Ser Ser Val Lys  
 145 150 155 160  
 Ile Asn Ala Thr Phe Ser Glu Glu Leu Leu Glu Thr Ile Phe Glu Pro  
 165 170 175  
 Ser Ser Pro Leu His Asp Gly Ala Val Ile Leu Arg Gly Asp Ile Leu  
 180 185 190  
 Ala Tyr Ala Arg Val Val Leu Pro Leu Ala His Asp Thr Thr Gln Leu  
 195 200 205  
 Ser Arg Ser Met Gly Thr Arg His Arg Ala Ala Leu Gly Ala Ser Gln  
 210 215 220  
 Arg Ser Asp Ala Leu Ile Ile Thr Val Ser Glu Glu Asn Gly Ser Val  
 225 230 235 240  
 Ser Leu Ser Arg Asp Gly Leu Leu Thr Arg Gly Val Lys Ile Asp Arg  
 245 250 255  
 Phe Lys Ala Val Leu Arg Ser Ile Leu Ser Pro Lys Glu His Lys Arg  
 260 265 270  
 Lys Pro Leu Phe Ser Trp Ile Trp Lys Arg  
 275 280

<210> 104  
 <211> 456  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 104  
 Phe Tyr Ile Gln Phe Trp Lys Phe Met Asp Ala Leu Ile Leu Ser Arg  
 1 5 10 15

Ile Gln Phe Gly Leu Phe Ile Thr Phe His Tyr Leu Phe Val Pro Leu  
 20 25 30  
 Ser Met Gly Leu Ser Met Met Leu Val Ile Met Glu Gly Leu Tyr Leu  
 35 40 45  
 Val Thr Lys Lys Gln Ile Tyr Lys Gln Met Thr Trp Phe Trp Val Gly  
 50 55 60  
 Ile Phe Ala Leu Thr Phe Val Leu Gly Val Val Thr Gly Ile Met Gln  
 65 70 75 80  
 Ile Phe Ser Phe Gly Ser Asn Trp Ala Asn Phe Ser Glu Tyr Thr Gly  
 85 90 95  
 Asn Ile Phe Gly Thr Leu Leu Gly Ser Glu Gly Val Phe Ala Phe Phe  
 100 105 110  
 Leu Glu Ser Gly Phe Leu Gly Ile Leu Leu Phe Gly Arg His Lys Val  
 115 120 125  
 Ser Lys Lys Met His Phe Phe Ser Thr Cys Met Val Ala Leu Gly Ala  
 130 135 140  
 His Met Ser Ala Phe Trp Ile Ile Cys Ala Asn Ser Trp Met Gln Thr  
 145 150 155 160  
 Pro Ser Gly Tyr Glu Met Val Met His Lys Gly Lys Leu Ile Pro Ala  
 165 170 175  
 Leu Thr Ser Phe Trp Gly Val Val Phe Ser Pro Thr Thr Ile Asp Arg  
 180 185 190  
 Phe Ile His Ala Val Leu Gly Thr Trp Leu Ser Gly Val Phe Leu Val  
 195 200 205  
 Ile Ser Val Ser Ala Tyr Tyr Leu Trp Lys Lys Arg His His Glu Phe  
 210 215 220  
 Ala Lys Gln Gly Met Lys Ile Gly Thr Ile Cys Ala Val Ile Val Leu  
 225 230 235 240  
 Val Leu Gln Leu Trp Ser Ala Asp Val Thr Ala Arg Gly Val Ala Lys  
 245 250 255  
 Asn Gln Pro Ala Lys Leu Ala Ala Phe Glu Gly Ile Phe Lys Thr Glu  
 260 265 270  
 Glu Tyr Thr Pro Ile Trp Ala Phe Gly Tyr Val Asp Met Glu Lys Glu  
 275 280 285  
 Arg Val Ile Gly Leu Pro Ile Pro Gly Ala Leu Ser Phe Leu Val His  
 290 295 300  
 Arg Asn Ile Lys Thr Pro Val Thr Gly Leu Asp Gln Ile Pro Arg Asp  
 305 310 315 320  
 Glu Trp Pro Asn Val Gln Ala Val Phe Gln Leu Tyr His Leu Met Ile  
 325 330 335  
 Met Leu Trp Gly Val Met Val Ala Leu Thr Leu Ile Ser Trp Ser Ala  
 340 345 350  
 Tyr Lys Gly Trp Arg Trp Ala Leu Lys Pro Phe Phe Leu Val Ile Leu  
 355 360 365  
 Thr Phe Ser Val Leu Leu Pro Glu Ile Cys Asn Glu Cys Gly Trp Cys  
 370 375 380  
 Ala Ala Glu Met Gly Arg Gln Pro Trp Val Val Gln Gly Leu Leu Lys  
 385 390 395 400  
 Thr Lys Asp Ala Val Ser Pro Ile Val Gln Ala Asn Gln Ile Val Gln  
 405 410 415  
 Ser Leu Val Ile Phe Ser Leu Val Phe Ile Ala Leu Leu Thr Leu Phe  
 420 425 430  
 Ile Thr Val Leu Cys Lys Lys Ile Lys His Gly Pro Glu Glu Glu Asn  
 435 440 445  
 Asp Leu Thr Glu Phe Glu Val Lys  
 450 455

<210> 105

<211> 349

<212> PRT

<213> Chlamydia pneumoniae

<400> 105

Asn	Arg	Gly	Ile	Phe	Met	Glu	Leu	Ser	Leu	Thr	Ser	Leu	Leu	Pro	Leu
1				5					10					15	
Ala	Trp	Tyr	Val	Ile	Leu	Gly	Val	Ala	Val	Phe	Ala	Tyr	Ser	Phe	Gly
			20					25					30		
Asp	Gly	Phe	Asp	Leu	Gly	Leu	Gly	Ala	Val	Tyr	Leu	Lys	Ala	Lys	Glu
		35					40					45			
Asp	Lys	Glu	Arg	Arg	Ile	Leu	Leu	Asn	Ser	Ile	Gly	Pro	Val	Trp	Asp
		50				55					60				
Gly	Asn	Glu	Val	Trp	Leu	Val	Ile	Ile	Val	Gly	Gly	Leu	Phe	Ala	Gly
65					70					75					80
Phe	Pro	Ala	Cys	Tyr	Ala	Thr	Leu	Leu	Ser	Ile	Phe	Tyr	Met	Pro	Ile
				85					90					95	
Trp	Thr	Leu	Val	Leu	Leu	Tyr	Ile	Phe	Arg	Gly	Cys	Ser	Leu	Glu	Phe
			100					105					110		
Arg	Ser	Lys	Ser	Glu	Ser	Val	Ser	Trp	Lys	Ile	Phe	Trp	Asp	Ile	Ile
		115					120					125			
Phe	Ile	Cys	Ser	Gly	Thr	Ala	Ile	Ser	Phe	Phe	Leu	Gly	Thr	Ile	Val
	130					135					140				
Gly	Asn	Leu	Ile	Leu	Gly	Leu	Pro	Leu	Ser	Pro	Asp	Thr	Ser	Tyr	Ala
145				150					155						160
Ser	Leu	Ser	Trp	Ile	Leu	Phe	Phe	Arg	Pro	Tyr	Ala	Ala	Leu	Cys	Gly
			165					170					175		
Ala	Val	Val	Ala	Ser	Ala	Phe	Ala	Ile	His	Gly	Ser	Cys	Phe	Ala	Leu
			180					185					190		
Met	Lys	Thr	Ser	Asp	Ser	Leu	Asn	Ala	Arg	Ile	Ala	Gln	Gln	Phe	Pro
		195					200					205			
Tyr	Ile	Leu	Ser	Ser	Phe	Leu	Val	Phe	Tyr	Val	Leu	Phe	Leu	Gly	Ala
	210					215					220				
Ser	Leu	Ile	Ser	Ile	Pro	Lys	Arg	Phe	Asp	Ala	Phe	Pro	Thr	Tyr	Pro
225					230					235					240
Leu	Leu	Ile	Leu	Leu	Ile	Ala	Leu	Thr	Ser	Cys	Cys	Cys	Val	Ala	Ala
			245						250					255	
Lys	Thr	Ser	Val	Ser	Lys	Lys	Arg	Tyr	Gly	Tyr	Ala	Phe	Ile	Tyr	Ser
			260					265					270		
Thr	Leu	Asn	Leu	Leu	Ser	Leu	Ile	Leu	Ser	Ala	Ala	Thr	Leu	Thr	Phe
		275					280					285			
Pro	Asn	Ile	Leu	Leu	Ser	Thr	Val	Asp	Pro	Gln	Tyr	Ser	Tyr	Thr	Ile
	290					295					300				
Tyr	Asn	Ser	Ala	Val	Glu	Thr	Lys	Thr	Leu	Lys	Ser	Leu	Leu	Ile	Ile
305					310					315					320
Val	Leu	Ile	Gly	Leu	Pro	Phe	Ile	Ile	Thr	Tyr	Thr	Cys	Tyr	Ile	Tyr
			325						330					335	
Arg	Val	Phe	Arg	Gly	Lys	Thr	Asn	Phe	Pro	Ser	Ile	Tyr			
			340					345							

<210> 106  
 <211> 403  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 106

Glu	Lys	Ser	Met	Arg	Met	Leu	Gln	Ile	Ser	Met	Leu	Leu	Leu	Ala	Leu
1				5					10					15	
Gly	Thr	Ala	Ile	Asn	Ser	Pro	Ala	Ile	Tyr	Ala	Ala	Asp	Ser	Gln	Ser
			20					25					30		
Val	Ser	Phe	Pro	Glu	Gln	Leu	Pro	Ser	Ser	Phe	Thr	Gly	Glu	Ile	Lys
		35					40					45			
Gly	Asn	His	Val	Arg	Met	Arg	Leu	Ala	Pro	His	Thr	Asp	Gly	Thr	Ile
	50					55					60				



Ile Arg Glu Phe Ser Lys Gly Asp Leu Val Ala Val Ile Gly Glu Ser  
 65 70 75 80  
 Lys Asp Tyr Tyr Val Ile Ser Ala Pro Pro Gly Ile Thr Gly Tyr Val  
 85 90 95  
 Phe Arg Ser Phe Val Leu Asp Asn Val Val Glu Gly Glu Gln Val Asn  
 100 105 110  
 Val Arg Leu Glu Pro Ser Thr Ser Ala Pro Val Leu Val Arg Leu Ser  
 115 120 125  
 Arg Gly Thr Gln Ile Gln Pro Ala Ser Gln Glu Pro His Gly Lys Trp  
 130 135 140  
 Leu Glu Val Val Leu Pro Ser Gln Cys Val Phe Tyr Val Ala Lys Asn  
 145 150 155 160  
 Phe Val Ala Asn Lys Gly Pro Ile Glu Leu Tyr Thr Gln Arg Glu Gly  
 165 170 175  
 Gln Lys Lys Ile Ala Met Asp Leu Ile Asn Ser Ala Leu Asn Phe Ala  
 180 185 190  
 His Ile Glu Leu Glu Lys Ser Leu Asn Glu Ile Asp Leu Glu Ala Ile  
 195 200 205  
 Tyr Lys Lys Ile Asn Leu Val Gln Ser Glu Glu Phe Lys Asp Val Pro  
 210 215 220  
 Gly Ile Gln Gly Leu Ile Gln Lys Ala Leu Glu Glu Ile Gln Asp Ala  
 225 230 235 240  
 Tyr Leu Ser Lys Ser Leu Glu Ser Gln Asn Thr Ser Ile Ala Ser Ser  
 245 250 255  
 Gln Cys Ser Thr Pro Lys Val Ser Ser Ser Glu Val Thr Thr Ser Leu  
 260 265 270  
 Leu Ser Arg His Ile Arg Lys Gln Thr Ala Leu Lys Thr Ala Pro Leu  
 275 280 285  
 Thr Gln Gly Arg Glu Asn Leu Glu Tyr Ser Leu Phe Arg Ile Trp Ala  
 290 295 300  
 Ser Met Gln Gln Gly Asn Asp His Ser Glu Ala Leu Thr Gln Glu Ala  
 305 310 315 320  
 Phe Tyr Arg Ala Glu Gln Lys Lys Lys Gln Val Leu Ala Gly Val Leu  
 325 330 335  
 Glu Val Tyr Pro His Val Val Lys Asn Asn Pro Gly Asp Tyr Leu Leu  
 340 345 350  
 Lys Ala Gln Glu Asn Thr Ile Ala Phe Leu Tyr Gly Thr Ser Ile Asn  
 355 360 365  
 Leu Glu Gln Trp Leu Gly Lys Arg Val Thr Val Glu Cys Leu Pro Arg  
 370 375 380  
 Pro Asn Asn His Phe Ala Phe Pro Ala Tyr Tyr Val Val Gly Ile Lys  
 385 390 395 400  
 Glu Ala Ser

<210> 107

<211> 285

<212> PRT

<213> Chlamydia pneumoniae

<400> 107

Tyr Val Pro Phe Arg Lys Phe Ser Asn Gln Asn Pro Met Leu Leu Ile  
 1 5 10 15  
 Tyr Cys Lys Lys Lys Glu Ile His Leu Gln Trp Pro Gln Thr Ala Lys  
 20 25 30  
 Ile Arg Phe Thr Pro Lys Ile Ala Met Lys Val Lys Ile Asn Asp Gln  
 35 40 45  
 Leu Ile Cys Ile Pro Pro Phe Ile Ser Ala Arg Trp Ser Gln Ile Ala  
 50 55 60  
 Phe Ile Glu Ser Gln Glu Gly Glu Asn Lys Asp Gln Gly Thr Leu Arg  
 65 70 75 80

Leu His Leu Ile Asp Gly Lys Ile Ile Ser Ile Pro Asn Leu Asp Gln  
                             85                            90                            95  
 Ser Ile Ile Asp Ile Ala Phe Gln Glu His Leu Leu Tyr Leu Glu Thr  
                             100                            105                            110  
 Ser Gln Ser Gly Lys Glu Asp Ser Arg Asp Asp Asp Lys Leu Gly Val  
                             115                            120                            125  
 Gly Val Leu Met Asn Val Leu Gln Gln Ile Thr Lys Gly Asn Asp Ile  
                             130                            135                            140  
 Gln Val Leu Pro Lys Asn Leu Ile Ser Pro Leu Phe Ser Gly Thr Asn  
                             145                            150                            155                            160  
 Pro Ile Glu Ala Ile Leu Gln His Thr Pro Glu His Lys Asp His Pro  
                             165                            170                            175  
 Asp Ala Pro Thr Asp Val Leu Glu Lys Met Ala Asp Val Ile Arg Val  
                             180                            185                            190  
 Leu Ser Gly Asn Asn Ala Thr Leu Leu Pro Arg Pro Glu Pro His Cys  
                             195                            200                            205  
 Asn Cys Met His Cys Gln Ile Gly Arg Val Met Asn Glu Glu Asp Thr  
                             210                            215                            220  
 Leu Ala Val Ser Asp Lys Asp Leu Thr Phe Arg Thr Trp Asp Ile Met  
                             225                            230                            235                            240  
 Gln Ser Gly Asp Lys Leu Tyr Ile Val Thr Asn Pro Leu Asn Pro Ser  
                             245                            250                            255  
 Asp Gln Phe Ser Val Tyr Leu Gly Pro Pro Ile Gly Cys Thr Cys Gly  
                             260                            265                            270  
 Glu Pro Asn Cys Glu His Ile Lys Ala Val Leu Tyr Thr  
                             275                            280                            285

<210> 108

<211> 434

<212> PRT

<213> Chlamydia pneumoniae

<400> 108

Glu Lys Val Arg Thr Gln Met Lys Lys Thr Met Val Ile Asp Thr Ser  
 1                            5                            10                            15  
 Val Phe Ile Tyr Asp Pro Glu Ala Leu Phe Ser Phe Glu Asn Thr Arg  
                             20                            25                            30  
 Ile Ile Ile Pro Phe Pro Val Ile Glu Glu Leu Glu Ala Phe Gly Lys  
                             35                            40                            45  
 Phe Arg Asp Glu Ser Ala Lys Asn Ala Ser Arg Ala Leu Ser Asn Ile  
                             50                            55                            60  
 Arg Leu Leu Leu Glu Asn Ala Lys Thr Lys Val Thr Asp Gly Val Leu  
                             65                            70                            75                            80  
 Leu Pro Ser Gly Ser Glu Leu Arg Ile Glu Val Ala Pro Leu Ser Asn  
                             85                            90                            95  
 Asp Asp Arg Arg Gly Lys Leu Leu Thr Leu Glu Leu Leu Lys Ile Ile  
                             100                            105                            110  
 Ala Lys Arg Glu Pro Met Val Phe Val Thr Lys Ser Leu Gly Arg Arg  
                             115                            120                            125  
 Val Arg Ala Glu Ala Leu Gln Ile Glu Ser Arg Asp Tyr Glu Ser Lys  
                             130                            135                            140  
 Arg Phe Ser Phe Arg Ser Leu Tyr Arg Gly Phe Arg Glu Leu Gln Val  
                             145                            150                            155                            160  
 Ser Gln Glu Asp Ile Glu Asn Phe Tyr Lys Asn Gly Tyr Leu Asp Leu  
                             165                            170                            175  
 Pro Leu Asp Val Val Ser Ser Pro Asn Glu Tyr Phe Phe Met Ser Ala  
                             180                            185                            190  
 Gly Glu Asn His Phe Ala Leu Gly Arg Tyr Tyr Val Ser Glu Gly Lys  
                             195                            200                            205  
 Ile Ile Ala Leu Lys Ala Met Asp Lys Ser Val Trp Gly Ile Lys Pro  
                             210                            215                            220

Leu Asn Thr Glu Gln Arg Cys Ala Leu Asp Leu Leu Leu Arg Asp Asp  
 225 230 235 240  
 Val Lys Leu Val Thr Leu Ile Gly Gln Ala Gly Ser Gly Lys Thr Ile  
 245 250 255  
 Leu Ala Leu Ala Ala Met His Lys Val Phe Asp Lys Glu Thr Tyr  
 260 265 270  
 Asn Lys Val Leu Val Ser Arg Pro Ile Val Pro Met Gly Arg Asp Ile  
 275 280 285  
 Gly Phe Leu Pro Gly Leu Lys Glu Asp Lys Leu Met His Trp Met Gln  
 290 295 300  
 Pro Ile Tyr Asp Asn Met Glu Val Leu Phe Ser Ile Asn Gln Met Gly  
 305 310 315 320  
 Asn Ser Ser Glu Ala Leu Gln Ala Leu Met Asp Ala Lys Lys Leu Glu  
 325 330 335  
 Met Glu Ala Leu Thr Tyr Ile Arg Gly Arg Ser Leu Pro Lys Ala Phe  
 340 345 350  
 Ile Ile Ile Asp Glu Ala Gln Asn Leu Thr Pro His Glu Ile Lys Thr  
 355 360 365  
 Ile Ile Ser Arg Ala Gly Lys Gly Thr Lys Ile Val Leu Thr Gly Asp  
 370 375 380  
 Pro Thr Gln Ile Asp Ser Leu Tyr Phe Asp Glu Asn Ser Asn Gly Leu  
 385 390 395 400  
 Thr Tyr Leu Val Gly Lys Phe His His Leu Ala Leu Tyr Gly His Met  
 405 410 415  
 Phe Met Thr Arg Thr Glu Arg Ser Glu Leu Ala Ala Ala Ala Thr  
 420 425 430  
 Ile Leu

<210> 109

<211> 310

<212> PRT

<213> Chlamydia pneumoniae

<400> 109

Lys Lys Ser Pro Pro Pro Val Thr Pro Lys Glu Ile Pro Thr Gln Pro  
 1 5 10 15  
 Lys Pro Pro Ile Pro Gln Arg Pro Glu Val Ser Pro Thr Pro Thr Asp  
 20 25 30  
 His Ile Val Pro Gly Ser Ile Glu Ala Ser Pro Ile Leu Gly Lys Lys  
 35 40 45  
 Pro Ser Pro Asp Ser Met Val Ser Pro Leu Ser Leu Phe His Lys Met  
 50 55 60  
 Leu Leu Glu Asn Trp Thr Pro Val Glu Glu Pro Phe Pro Trp Pro Pro  
 65 70 75 80  
 Ala Glu Lys Asn Gln Lys Ile Phe Ala Trp Ala Leu Asn Gln Ser Lys  
 85 90 95  
 Leu Ile Phe Val Ser Thr Ser Gly Asn Ile Ala Gln Pro Arg Leu Val  
 100 105 110  
 Thr Asp Ser Met Ser Met Met Ile Val Asn Ala Ala Asn Arg Thr Met  
 115 120 125  
 Ser Arg Asp Gly Ala Gly Thr Asn Gln Val Leu Ser Ala Ala Val Ser  
 130 135 140  
 Val Asp Ser Trp Gly Leu Ser Gln Arg Pro Leu Asn Pro Glu Arg Gln  
 145 150 155 160  
 Gly Thr Pro Leu Asn Glu Gly Glu Cys Arg Ala Gly Met Trp Arg Asn  
 165 170 175  
 Ala Asp Gly Ser Asn His Thr Gly Lys Gln Gly Lys Pro His Tyr Leu  
 180 185 190  
 Ala Gln Leu Leu Gly Pro Lys Ala Val Asp His His Asn Lys Ser Gln  
 195 200 205

Ala Ala Phe Asp Arg Cys Lys Asn Ala Tyr Leu Asn Cys Phe Ser Leu  
210 215 220  
Ala Gln Thr Leu Gly Val Thr Phe Leu Gln Ile Pro Leu Ile Ser Ser  
225 230 235 240  
Gly Ile Tyr Ala Pro Pro Glu Asn Arg Lys Lys Pro Asn Ser Glu Glu  
245 250 255  
Asn Lys Val Arg Met Arg Trp Ile His Ala Val Lys Cys Ala Leu Val  
260 265 270  
Ala Ala Met Gln Glu Phe Gly Asn Glu Pro Gly Asn Thr Asp Arg Arg  
275 280 285  
Met Leu Ile Val Leu Thr Asp Leu Lys Thr Pro Ala Ile Thr Asp Pro  
290 295 300  
Lys Lys Lys Ser His Leu  
305 310

<210> 110  
<211> 195  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 110  
Lys Asn Leu Phe His Tyr Lys Ala Ile Leu Met Ser Ile Phe Asn Glu  
1 5 10 15  
Glu Val Phe Ile Ile Ser His Arg His Thr Pro Leu Gly Gln Thr Ser  
20 25 30  
Thr Ala Leu Arg Asn Thr Pro Leu Val Asn Pro Leu His Arg Thr Asn  
35 40 45  
Leu Gln Arg Ile Ala Ser Tyr Ile Pro Ile Phe Ser Thr Phe Ile Gly  
50 55 60  
Ile Lys Thr Leu Lys Gly Ile Ser Ser Leu Gln Tyr Ser Met Val Leu  
65 70 75 80  
Met Thr Gly Asn Phe Ser Ser Val Cys Lys Thr Leu Pro Cys Pro Glu  
85 90 95  
Ile Tyr Glu Glu Leu Pro Lys Val Arg Lys Glu Ala Trp Leu Glu Ile  
100 105 110  
Phe Gly Ile Lys Ala Leu Tyr Tyr Leu Val Leu Gly Val Ile Lys Ile  
115 120 125  
Ile Lys Leu Ile Val Arg Tyr Leu Cys Pro Cys Cys Arg Pro Pro Glu  
130 135 140  
Pro Arg Glu Pro Gln Asn Pro Leu Thr Pro Thr Pro Leu Asp Met Gly  
145 150 155 160  
Gln Gln Ile Asp Ala Ile Phe Ser Thr Pro Thr Ser Pro Thr Gly Phe  
165 170 175  
Lys Asp Pro Phe Leu Asp Asp Leu Leu Gln Glu Asp Lys Lys Lys Ala  
180 185 190  
Pro His Leu  
195

<210> 111  
<211> 1046  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 111  
Arg Gln Lys Met Thr Ala Asp Glu Val Gly Lys Asn Ser Phe Ala Lys  
1 5 10 15  
Lys Glu Glu Gln Val Leu Lys Phe Trp Lys Asp Asn Gln Ile Phe Glu  
20 25 30  
Lys Ser Leu Gln Asn Arg Gln Gly Lys Thr Leu Tyr Ser Phe Tyr Asp  
35 40 45

Gly	Pro	Pro	Phe	Ala	Thr	Gly	Leu	Pro	His	Tyr	Gly	His	Leu	Leu	Ala
50						55					60				
Ser	Thr	Ile	Lys	Asp	Val	Val	Gly	Arg	Tyr	Ala	Thr	Met	Asp	Gly	Tyr
65					70					75					80
Tyr	Val	Pro	Arg	Arg	Phe	Gly	Trp	Asp	Cys	His	Gly	Val	Pro	Val	Glu
				85					90					95	
Tyr	Glu	Val	Glu	Lys	Ser	Leu	Ser	Leu	Thr	Ala	Pro	Gly	Ala	Ile	Glu
			100					105					110		
Asp	Phe	Gly	Ile	Ala	Ser	Phe	Asn	Glu	Glu	Cys	Arg	Lys	Ile	Val	Phe
		115					120					125			
Arg	Tyr	Val	His	Glu	Trp	Glu	Tyr	Tyr	Ile	Asn	Arg	Ile	Gly	Arg	Trp
		130				135					140				
Val	Asp	Phe	Ser	Ser	Thr	Trp	Lys	Thr	Met	Asp	Ala	Ser	Phe	Met	Glu
145					150					155					160
Ser	Val	Trp	Trp	Val	Phe	Gln	Ser	Leu	Tyr	Asn	Gln	Gly	Leu	Val	Tyr
				165					170					175	
Glu	Gly	Thr	Lys	Val	Val	Pro	Phe	Ser	Thr	Ala	Leu	Gly	Thr	Pro	Leu
			180					185					190		
Ser	Asn	Phe	Glu	Ala	Ser	Gln	Asn	Tyr	Lys	Glu	Val	Asp	Asp	Pro	Ser
		195					200					205			
Leu	Val	Val	Arg	Met	Pro	Leu	Gln	Asn	Asp	Ser	Ala	Ser	Leu	Leu	Val
		210				215					220				
Trp	Thr	Thr	Thr	Pro	Trp	Thr	Leu	Pro	Ser	Asn	Met	Ala	Ile	Ala	Val
225					230					235					240
Gly	Glu	Thr	Leu	Val	Tyr	Val	Arg	Ile	Gln	Asp	Lys	Lys	Ser	Gly	Glu
				245					250					255	
Gln	Trp	Ile	Leu	Ser	Gln	Gly	Cys	Val	Ser	Arg	Trp	Phe	Ser	Asn	Pro
		260					265						270		
Glu	Glu	Phe	Val	Ile	Leu	Glu	Ser	Phe	Ser	Gly	Lys	Asp	Leu	Val	Gly
		275					280					285			
Arg	Thr	Tyr	Glu	Pro	Pro	Phe	Thr	Phe	Phe	Gln	Ser	Lys	Arg	Glu	Glu
		290				295					300				
Gly	Ala	Phe	Arg	Val	Ile	Ala	Ala	Ser	Phe	Val	Glu	Glu	Ser	Glu	Gly
305					310					315					320
Thr	Gly	Val	Val	His	Met	Ala	Pro	Ala	Phe	Gly	Glu	Gly	Asp	Phe	Leu
				325					330					335	
Val	Cys	Lys	Glu	Asn	His	Val	Pro	Leu	Val	Cys	Pro	Val	Asp	Ala	His
			340					345					350		
Gly	Ser	Phe	Thr	Glu	Glu	Ile	Pro	Gln	Tyr	Gln	Gly	Gln	Tyr	Ile	Lys
		355					360					365			
His	Ala	Asp	Lys	Glu	Ile	Ile	Lys	Phe	Leu	Lys	Lys	Glu	Gly	Arg	Ile
		370				375					380				
Phe	Tyr	His	Gly	Thr	Val	Lys	His	Arg	Tyr	Pro	Phe	Cys	Trp	Arg	Thr
385					390					395					400
Asp	Thr	Pro	Leu	Ile	Tyr	Lys	Ala	Val	Asn	Ser	Trp	Phe	Val	Ala	Val
				405					410					415	
Glu	Lys	Ile	Lys	Asp	Lys	Met	Leu	Arg	Ala	Asn	Ser	Ser	Ile	His	Trp
			420					425					430		
Val	Pro	Glu	His	Ile	Gln	Glu	Gly	Arg	Phe	Gly	Lys	Trp	Leu	Glu	Gly
		435					440					445			
Ala	Arg	Asp	Trp	Ala	Ile	Ser	Arg	Asn	Arg	Tyr	Trp	Gly	Thr	Pro	Ile
		450				455					460				
Pro	Ile	Trp	Lys	Ser	Ala	Asp	Gly	Glu	Ile	Leu	Val	Val	Gly	Ser	Ile
465					470					475					480
Arg	Glu	Leu	Glu	Glu	Leu	Thr	Gly	Thr	Gln	Ile	Thr	Asp	Ile	His	Arg
				485					490					495	
His	Phe	Ile	Asp	Asp	Leu	Asn	Ile	Val	Lys	Asp	Gly	Lys	Pro	Phe	His
			500					505					510		
Arg	Ile	Pro	Tyr	Val	Phe	Asp	Cys	Trp	Phe	Asp	Ser	Gly	Ala	Met	Pro
		515					520					525			



Glu Thr Leu Ile Ile Ala Tyr Asp Phe Thr Gln Asp Ser Asp Phe Gln  
 1010 1015 1020  
 Gly Glu Asn Trp Asp Ile Asn Gly His Ala Thr Gln Ile Glu Ile Thr  
 1025 1030 1035 1040  
 Val Ser Ser Ile Asp Ser  
 1045

<210> 112  
 <211> 643  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 112  
 Leu Ser Tyr Pro Ser Ile Phe Met Lys Gln His Tyr Ser Leu Asn Lys  
 1 5 10 15  
 Ser Arg His Ile Leu Arg Ser Thr Tyr Lys Leu Leu Lys Ser Lys Lys  
 20 25 30  
 Leu Ala His Ser Pro Ala Asp Lys Lys Gln Leu Gln Glu Leu Leu Glu  
 35 40 45  
 Gln Leu Glu Glu Ala Ile Phe Glu His Asp Gln Glu Thr Ala Ser Asp  
 50 55 60  
 Leu Ala Gln Gln Ala Leu Ala Phe Ser Asn Arg Tyr Pro Asn Ser Phe  
 65 70 75 80  
 Gly Arg Lys Thr Tyr Glu Leu Ile Lys Ala Leu Leu Phe Ala Gly Val  
 85 90 95  
 Val Ala Phe Leu Val Arg Gln Phe Trp Phe Glu Leu Tyr Glu Val Pro  
 100 105 110  
 Thr Gly Ser Met Arg Pro Thr Ile Leu Glu Gln Asp Arg Ile Leu Val  
 115 120 125  
 Ser Lys Thr Thr Phe Gly Leu His Cys Pro Phe Ala Lys Lys Pro Leu  
 130 135 140  
 Ala Phe Asn Pro Glu Ser Val Thr Arg Gly Gly Leu Val Val Phe Thr  
 145 150 155 160  
 Val Gly Asp Leu Pro Ile Pro Asp Ala Asp Thr Lys Tyr Phe Gly Leu  
 165 170 175  
 Ile Pro Gly Lys Lys Arg Tyr Ile Lys Arg Cys Met Gly Arg Pro Gly  
 180 185 190  
 Asp Phe Leu Tyr Phe Tyr Gly Gly Lys Ile Tyr Gly Leu Asp Asp Ala  
 195 200 205  
 Gly Lys Arg Ile Glu Phe Pro Ser Val His Gly Leu Glu Asn Leu Tyr  
 210 215 220  
 His Val Pro Tyr Ile Ser Phe Asp Gly Thr Thr Ser Ser His Thr Glu  
 225 230 235 240  
 Gly Gln Lys Thr Ile Ile Asp Phe Lys Gln Phe Asn Gln Ser Tyr Gly  
 245 250 255  
 Arg Leu Ile Phe Pro Gln Thr Ser Met Tyr Gly Gln Phe Phe Asp His  
 260 265 270  
 Lys Glu Trp His Gln Asp Glu Pro Asn Lys Leu Lys Asp Pro His Leu  
 275 280 285  
 Ser Pro Val Ser Tyr Ala Asp Leu Phe Gly Met Gly Asn Tyr Ala Met  
 290 295 300  
 Val Arg Ile Leu Thr Glu His Gln Ala Arg Thr Ser His Leu Leu Pro  
 305 310 315 320  
 Asn Pro Gly Ser Pro Thr Lys Val Tyr Leu Glu Ile Cys His Thr Ala  
 325 330 335  
 Asn Leu Ser Tyr Pro Lys Pro Leu Leu Arg His Tyr Glu His Gln Leu  
 340 345 350  
 Ser Pro Ala Ile Gln Pro Met Lys Thr Leu Leu Pro Leu Arg Lys Glu  
 355 360 365  
 His Leu His Leu Ile Arg Asn Asn Leu Thr Thr Ser Arg Phe Ile Val  
 370 375 380

Ala Gln Gly Cys Ala Tyr Lys Tyr His Gln Phe Lys Ile Asn Thr Ser  
 385 390 395 400  
 Gly Ile Ala Lys Ala Tyr Ala Ile Leu Leu Pro Lys Val Pro Asp Gly  
 405 410 415  
 Cys Tyr Glu Tyr Ser Lys Gly Glu Ala Tyr Gln Ile Gly Phe Gly Glu  
 420 425 430  
 Ile Arg Tyr Lys Leu Lys Ser Ser His Pro Leu Thr Gln Leu Asn Asp  
 435 440 445  
 Lys Gln Val Ile Glu Leu Phe Asn Cys Gly Ile Asn Phe Ser Ser Ile  
 450 455 460  
 Tyr Asn Pro Val Asn Pro Leu Gln Ala Pro Leu Pro Asn Arg Tyr Ala  
 465 470 475 480  
 Phe Phe Asn Gln Gly Asn Leu Tyr Ile Met Asp Ser Pro Val Phe Ile  
 485 490 495  
 Lys Asn Asp Pro Thr Leu Gln Lys Phe Val Thr Ser Glu Thr Glu Lys  
 500 505 510  
 Gln Glu Gly Ser Ser Glu Thr Gln Pro Tyr Ile Ala Phe Val Asp Lys  
 515 520 525  
 Gly Leu Pro Pro Glu Asp Phe Lys Glu Phe Val Glu Phe Ile His Asn  
 530 535 540  
 Phe Gly Ile Gln Val Pro Lys Gly His Val Leu Val Leu Gly Asp Asn  
 545 550 555 560  
 Tyr Pro Met Ser Ala Asp Ser Arg Glu Phe Gly Phe Val Pro Met Glu  
 565 570 575  
 Asn Leu Leu Gly Ser Pro Leu Cys Thr Phe Trp Pro Ile Gly Arg Met  
 580 585 590  
 Gly Arg Leu Thr Gly Val Ser Ala Pro Thr Thr Leu Ser Gly Tyr Leu  
 595 600 605  
 Val Ser Gly Ile Ala Leu Ala Thr Gly Leu Ser Leu Ile Gly Tyr Val  
 610 615 620  
 Tyr Tyr Gln Lys Arg Arg Arg Leu Phe Pro Lys Lys Glu Glu Lys Asn  
 625 630 635 640  
 His Lys Lys

<210> 113  
 <211> 276  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 113  
 Gln Leu Gln Asn Arg Tyr Pro Ile Met Pro Asn Asp Ser Ser Thr Tyr  
 1 5 10 15  
 Phe Glu Arg Ile Leu Gln Lys Tyr Leu Met Lys Lys Gln Gly Lys Thr  
 20 25 30  
 Leu Phe Leu Phe Leu Phe Leu Ser Phe Leu Phe Ser Thr Ala Phe Ser  
 35 40 45  
 Gly Leu Phe Ala Ser Gln Thr Ser Ser Leu Arg Thr Ile Gln Glu Asn  
 50 55 60  
 Ile Phe Leu Ala Lys Thr Gly Asp Tyr Thr Val Leu Ser Arg Gly Ser  
 65 70 75 80  
 Gln Arg Thr Phe Val Leu Val Lys Ser Thr Thr Pro Lys Thr Val Trp  
 85 90 95  
 Ile Glu Ile Ile His Phe Pro Cys Ile Ala His Lys Glu Arg Pro Ser  
 100 105 110  
 Leu Glu Gln Ala Ser Trp Lys Thr Val Ile His Gln Leu Glu Ser Pro  
 115 120 125  
 Ser Gln Val Phe Val Val Ser Leu Ser Ser Glu Gly Ser Gln Phe Phe  
 130 135 140  
 Ser Leu Asn Thr Arg Thr Lys Ser Leu Glu Pro Val Gly Lys Ser Thr  
 145 150 155 160



Thr Val Pro Ala Phe Leu Gln Ile Phe Asp Leu Pro Leu Ser Pro Ala  
 165 170 175  
 Pro Ala Asn Val Ile Lys Thr Lys Gly Lys Glu Asn Lys Pro Trp Ser  
 180 185 190  
 Pro Lys Val Ser Phe Glu Gly Ala Pro Leu Thr Ser Ile Ser Val Asn  
 195 200 205  
 Ala Trp Gln Gly Leu Trp Pro Lys Asp Arg Gly Pro Leu Ser Glu Thr  
 210 215 220  
 Gly Ile Leu Met Tyr Phe Thr Gln Pro Asp Ile Ser Val Phe Pro Leu  
 225 230 235 240  
 Trp Val Ser Ile Glu Thr Pro Lys Gly Thr Ser Ile Val Arg Ala Val  
 245 250 255  
 Asp Ile Gly His Gly Ala Thr Ser Pro Tyr Val Tyr Ser Leu Pro Asp  
 260 265 270  
 Ser Lys Thr Gln  
 275

<210> 114

<211> 117

<212> PRT

<213> Chlamydia pneumoniae

<400> 114

Asp Ser Asp Phe Gly Val Val Asn Met Lys Lys Asn Thr His Pro Glu  
 1 5 10 15  
 Tyr Arg Gln Val Leu Phe Val Asp Ser Thr Gly Tyr Lys Phe Val  
 20 25 30  
 Cys Gly Ser Thr Tyr Gln Ser Glu Lys Thr Glu Val Phe Glu Gly Lys  
 35 40 45  
 Glu Tyr Pro Val Cys Tyr Val Ser Val Ser Ser Ser Ser His Pro Phe  
 50 55 60  
 Phe Thr Gly Ser Lys Lys Phe Val Asp Ala Glu Gly Arg Val Asp Lys  
 65 70 75 80  
 Phe Leu Lys Arg Tyr Ser Asn Val Arg Gln Pro Ala Gln Gln Pro Gln  
 85 90 95  
 Pro Glu Glu Asp Ala Leu Pro Ala Ala Lys Gly Lys Lys Lys Val Val  
 100 105 110  
 Thr Lys Lys Lys Lys  
 115

<210> 115

<211> 359

<212> PRT

<213> Chlamydia pneumoniae

<400> 115

Gly Phe Met Lys Lys Lys Val Ala Glu Tyr Leu Asn Arg Leu Ala Glu  
 1 5 10 15  
 Val Glu Ile Lys Ile Ser Asn Pro Glu Ile Phe Ser Asn Ser Lys Glu  
 20 25 30  
 Tyr Ser Ala Leu Ser Lys Glu His Ser Tyr Leu Leu Glu Leu Lys Asn  
 35 40 45  
 Ala Tyr Asp Lys Ile Leu Asn Leu Glu Lys Val Leu Ala Asp Asp Lys  
 50 55 60  
 Gln Ala Leu Ala Ile Glu Lys Asp Pro Glu Met Val Val Met Leu Glu  
 65 70 75 80  
 Glu Gly Ile Asn Glu Asn Lys Val Glu Leu Glu Lys Leu Asn Lys Ile  
 85 90 95  
 Leu Glu Ser Leu Leu Val Pro Pro Asp Pro Asp Asp Asp Leu Asn Val  
 100 105 110

Ile Met Glu Leu Arg Ala Gly Thr Gly Gly Glu Glu Ala Ala Leu Phe  
 115 120 125  
 Val Gly Asp Cys Val Arg Met Tyr His Leu Tyr Ala Ser Ser Lys Gly  
 130 135 140  
 Trp Lys Tyr Glu Val Leu Ser Ala Ser Glu Ser Asp Leu Lys Gly Tyr  
 145 150 155 160  
 Lys Glu Tyr Val Met Gly Ile Ser Gly Thr Gly Val Lys Arg Leu Leu  
 165 170 175  
 Gln Tyr Glu Ala Gly Thr His Arg Val Gln Arg Val Pro Glu Thr Glu  
 180 185 190  
 Thr Gln Gly Arg Val His Thr Ser Ala Ile Thr Ile Ala Val Leu Pro  
 195 200 205  
 Glu Pro Ser Glu Glu Asp Thr Glu Leu Leu Ile Asn Glu Lys Asp Leu  
 210 215 220  
 Lys Ile Asp Thr Phe Arg Ala Ser Gly Ala Gly Gly Gln His Val Asn  
 225 230 235 240  
 Val Thr Asp Ser Ala Val Arg Ile Thr His Leu Pro Thr Gly Val Val  
 245 250 255  
 Val Thr Cys Gln Asp Glu Arg Ser Gln His Lys Asn Lys Asp Lys Ala  
 260 265 270  
 Met Arg Ile Leu Lys Ala Arg Ile Arg Asp Ala Glu Met Gln Lys Arg  
 275 280 285  
 His Asn Glu Ala Ser Ala Met Arg Ser Ala Gln Val Gly Ser Gly Asp  
 290 295 300  
 Arg Ser Glu Arg Ile Arg Thr Tyr Asn Phe Ser Gln Asn Arg Val Thr  
 305 310 315 320  
 Asp His Arg Ile Gly Leu Thr Leu Tyr Asn Leu Asp Lys Val Met Glu  
 325 330 335  
 Gly Asp Leu Asp Pro Ile Thr Thr Ala Met Val Ser His Ala Tyr His  
 340 345 350  
 Gln Leu Leu Glu His Gly Asn  
 355

<210> 116  
 <211> 297  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 116  
 Val Met Pro Thr Thr Ser Tyr Ser Asn Met Glu Ile Lys Lys Ala Ile  
 1 5 10 15  
 Gln Glu Gly Thr Ala Tyr Leu Asp Tyr Tyr Gly Val Pro Leu Ser Asp  
 20 25 30  
 Cys Glu Ala Leu Tyr Ile Leu Met Asp Leu Leu Glu Val Ser Ser Arg  
 35 40 45  
 Ala Lys Leu Phe Asp Leu Val Gly Ile Ser Glu Thr Met Leu Met Glu  
 50 55 60  
 Tyr Arg Lys Arg Leu Ala Leu Arg Gly Gln Arg Cys Pro Thr Ala Tyr  
 65 70 75 80  
 Leu Asn Gly Ala Val Ser Phe Leu Gly Leu Arg Leu Arg Val Asp Ser  
 85 90 95  
 Arg Val Leu Ile Pro Arg Thr Glu Thr Glu Leu Leu Ala Glu Tyr Ile  
 100 105 110  
 Ile Asn Tyr Leu Leu Ser His Ser Glu Ile Gln Thr Phe Tyr Asp Ile  
 115 120 125  
 Cys Cys Gly Ser Gly Cys Leu Gly Leu Ala Ile Lys Lys Ser Cys Pro  
 130 135 140  
 His Val Glu Val Val Leu Ser Asp Val Cys Pro Gln Ala Val Ala Val  
 145 150 155 160  
 Ala Asn Glu Asn Ala Lys Ser Asn Gly Leu Asp Val Lys Ile Leu Leu  
 165 170 175

Gly Asp Leu Ser Ala Pro Tyr Thr Arg Pro Ala Asp Ala Phe Val Cys  
 180 185 190  
 Asn Pro Pro Tyr Leu Ser Phe Asn Glu Ile Ile His Ile Asp Pro Glu  
 195 200 205  
 Val Arg Cys Tyr Glu Pro Trp Lys Ala Leu Val Gly Gly Ser Thr Gly  
 210 215 220  
 Leu Glu Phe Tyr Gln Arg Ile Ala Gln Glu Leu Pro Lys Ile Val Thr  
 225 230 235 240  
 Ser Thr Gly Val Gly Trp Leu Glu Ile Gly Ser Ser Gln Gly Glu Ser  
 245 250 255  
 Ile Lys Asn Ile Phe Ser Lys His Gly Ile Tyr Gly Arg Leu His Gln  
 260 265 270  
 Asp Leu Ser Gly Arg Asp Arg Ile Phe Phe Leu Glu Met Asp Gly Arg  
 275 280 285  
 Asp Pro Val Ser Ser Gly Ala Tyr Ser  
 290 295

<210> 117  
 <211> 448  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 117  
 Met Ile Asn Ser Leu Ser Gln Lys Leu Ser Ser Ile Phe Ser Phe Leu  
 1 5 10 15  
 Val Ser Ser Arg Arg Ile Asn Glu Glu Asn Ile Ser Glu Ser Ile Arg  
 20 25 30  
 Glu Val Arg Leu Ala Leu Leu Asp Ala Asp Val Asn Tyr His Val Val  
 35 40 45  
 Lys Asp Phe Ile Ser Lys Val Lys Glu Lys Ile Leu Gly Glu Glu Ile  
 50 55 60  
 Trp Lys His Val Ser Pro Gly Gln Gln Phe Ile Arg Cys Leu His Glu  
 65 70 75 80  
 Glu Leu Val Ala Phe Leu Ser Asp Gly Arg Glu Glu Phe Thr Ile Gln  
 85 90 95  
 Lys Thr Pro Ser Ile Ile Leu Leu Cys Gly Leu Gln Gly Ala Gly Lys  
 100 105 110  
 Thr Thr Thr Ala Ala Lys Leu Ala Asp Tyr Val Ile Lys Asn Lys Lys  
 115 120 125  
 Ala Lys Lys Val Leu Val Val Pro Cys Asp Leu Lys Arg Phe Ala Ala  
 130 135 140  
 Val Asp Gln Leu Lys Ile Leu Val Ala Gln Thr Lys Ala Glu Phe Tyr  
 145 150 155 160  
 Gln Ser Gln Glu Asn Lys Pro Ile Asn Val Val Val Lys Ala Leu Ala  
 165 170 175  
 Tyr Ala Lys Glu Asn Gly His Asp Phe Val Ile Leu Asp Thr Ala Gly  
 180 185 190  
 Arg Leu Asn Ile Asp Asn Glu Leu Met Glu Glu Leu Thr Ala Ile Gln  
 195 200 205  
 Lys Val Ser Gln Ala Asn Glu Arg Leu Phe Val Met Asn Val Ala Met  
 210 215 220  
 Gly Gln Asp Val Leu Ala Thr Val Gln Ala Phe Asp Gln Ser Leu Asp  
 225 230 235 240  
 Leu Thr Gly Val Ile Leu Ser Met Thr Asp Gly Asp Ala Arg Ala Gly  
 245 250 255  
 Ala Val Phe Ser Ile Lys His Val Leu Gly Lys Pro Ile Lys Phe Glu  
 260 265 270  
 Gly Cys Gly Glu Arg Ile Gln Asp Leu Arg Ser Phe Asp Pro Gln Ser  
 275 280 285  
 Met Ala Glu Arg Ile Leu Gly Met Gly Asp Thr Ile Asn Phe Val Lys  
 290 295 300

Glu Met Arg Glu Tyr Ile Ser Glu Glu Glu Asp Ala Glu Leu Gly Lys  
 305 310 315 320  
 Lys Leu Val Thr Ala Ala Phe Thr Tyr Glu Asp Tyr Tyr Lys Gln Met  
 325 330 335  
 Lys Ala Phe Arg Arg Met Gly Pro Leu Arg Lys Leu Leu Gly Met Met  
 340 345 350  
 Pro Gly Phe Asn Asn Ala Lys Pro Ser Gln Lys Glu Ile Glu Asp Ser  
 355 360 365  
 Glu Gln Gln Met Lys Arg Thr Glu Ala Ile Ile Leu Ser Met Thr Pro  
 370 375 380  
 Glu Glu Arg Lys Glu Leu Val Glu Leu Asp Met Ser Arg Met Lys Arg  
 385 390 395 400  
 Ile Ala Ser Gly Cys Gly Leu Thr Leu Gly Asp Val Asn Gln Phe Arg  
 405 410 415  
 Lys Gln Met Ser Gln Ser Lys Lys Phe Phe Lys Gly Met Ser Lys Gly  
 420 425 430  
 Lys Met Glu Gln Val Arg Lys Lys Met Ser Gly Gly Asn Gln Trp Arg  
 435 440 445

<210> 118  
 <211> 127  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 118  
 Glu Lys Asn Val Arg Arg Lys Ser Val Ala Leu Lys Ile Arg Leu Arg  
 1 5 10 15  
 Gln Gln Gly Arg Arg Asn His Val Val Tyr Arg Leu Val Leu Ala Asp  
 20 25 30  
 Val Glu Ser Pro Arg Asp Gly Lys Tyr Ile Glu Leu Leu Gly Trp Tyr  
 35 40 45  
 Asp Pro His Ser Ser Ile Asn Tyr Gln Leu Lys Ser Glu Arg Ile Phe  
 50 55 60  
 Tyr Trp Leu Glu Arg Gly Ala Gln Leu Ser Ser Lys Ala Glu Ala Leu  
 65 70 75 80  
 Val Lys Gln Gly Ala Pro Gly Val Tyr Ser Ala Leu Leu Ser Lys Gln  
 85 90 95  
 Glu Ala Arg Lys Leu Val Val Arg Lys Lys Arg Arg Ala Tyr Arg Gln  
 100 105 110  
 Arg Arg Ser Thr Gln Arg Glu Glu Ala Ala Lys Asp Ala Thr Lys  
 115 120 125

<210> 119  
 <211> 363  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 119  
 Thr Gly Met Lys Ile Asp Ile Leu Ser Leu Phe Pro Gly Tyr Phe Asp  
 1 5 10 15  
 Gly Pro Leu Gln Thr Ser Ile Leu Gly Arg Ala Ile Lys Gln Arg Leu  
 20 25 30  
 Leu Asp Val Gln Leu Thr Asn Leu Arg Asp Phe Gly Leu Gly Lys Trp  
 35 40 45  
 Lys Gln Val Asp Asp Thr Pro Phe Ser Gly Gly Gly Met Leu Leu Met  
 50 55 60  
 Ala Glu Pro Val Thr Ser Ala Ile Arg Ser Val Arg Lys Glu Asn Ser  
 65 70 75 80  
 Lys Val Ile Tyr Leu Ser Pro Gln Gly Ala Leu Leu Thr Ala Glu Lys  
 85 90 95

Ser Arg Glu Leu Ala Ala Ala Ser His Leu Ile Leu Leu Cys Gly His  
 100 105 110  
 Tyr Glu Gly Ile Asp Glu Arg Ala Ile Glu Ser Glu Val Asp Glu Glu  
 115 120 125  
 Ile Ser Ile Gly Asp Tyr Val Leu Thr Asn Gly Gly Ile Ala Ala Leu  
 130 135 140  
 Val Leu Ile Asp Ala Val Ser Arg Phe Ile Pro Gly Val Leu Gly Asn  
 145 150 155 160  
 Gln Glu Ser Ala Glu Arg Asp Ser Leu Glu Asn Gly Leu Leu Glu Gly  
 165 170 175  
 Pro Gln Tyr Thr Arg Pro Arg Glu Phe Glu Gly Lys Glu Val Pro Glu  
 180 185 190  
 Val Leu Leu Gln Gly Asp His Lys Ala Ile Ser Gln Trp Arg Leu Glu  
 195 200 205  
 Gln Ser Glu Arg Arg Thr Tyr Glu Arg Arg Pro Asp Leu Tyr Leu Asn  
 210 215 220  
 Tyr Leu Tyr Lys Arg Ser Ile Asp His Lys Phe Asp Glu Glu Thr Thr  
 225 230 235 240  
 Thr Asn Arg Asp His Phe Lys Cys Asp Lys Ile Ser Val Val Leu Glu  
 245 250 255  
 Val Asn Lys Leu Lys Arg Ala Lys Asn Phe Tyr Cys Lys Val Phe Gly  
 260 265 270  
 Leu Asp Ala Met Ser Cys Glu Asn Lys Phe Cys Leu Pro His Glu Gly  
 275 280 285  
 Lys Thr Ile Phe Trp Leu Arg Glu Val Gln Ala Glu Lys Lys Asn Ile  
 290 295 300  
 Val Thr Leu Ser Leu Ser Leu Asp Cys Ala Cys Glu Glu Asp Phe Cys  
 305 310 315 320  
 Tyr Leu Leu Arg Arg Trp Glu Leu Phe Gly Gly Lys Leu Leu Glu Lys  
 325 330 335  
 Gln Ala Asp Glu His Ala Val Trp Ala Leu Ala Gln Asp Leu Asp Gly  
 340 345 350  
 His Ala Trp Ile Phe Ser Trp His Arg Met Lys  
 355 360

<210> 120

<211> 130

<212> PRT

<213> Chlamydia pneumoniae

<400> 120

Lys Lys Glu Asn Phe Arg Trp Tyr Ile Met Val Asn Leu Leu Lys Glu  
 1 5 10 15  
 Leu Glu Gln Glu Gln Cys Arg Asn Asp Leu Pro Glu Phe His Val Gly  
 20 25 30  
 Asp Thr Ile Arg Leu Ala Thr Lys Ile Ser Glu Gly Gly Lys Glu Arg  
 35 40 45  
 Val Gln Val Phe Gln Gly Thr Val Met Ala Arg Arg Gly Gly Gly Ser  
 50 55 60  
 Gly Glu Thr Val Ser Leu His Arg Val Ala Tyr Gly Glu Gly Met Glu  
 65 70 75 80  
 Lys Ser Phe Leu Leu Asn Ser Pro Arg Ile Val Ser Ile Glu Ile Val  
 85 90 95  
 Lys Arg Gly Lys Val Ala Arg Ala Arg Leu Tyr Tyr Leu Arg Gly Lys  
 100 105 110  
 Thr Gly Lys Ala Ala Lys Val Lys Glu Phe Val Gly Pro Arg Ser Ser  
 115 120 125  
 Lys Lys  
 130

<210> 121  
 <211> 215  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 121  
 Leu Met Asn Thr Ser Ile Ser Glu Ile Gln Arg Phe Leu Ser Met Ile  
 1 5 10 15  
 Ala Phe Glu Lys Glu Leu Val Ser Glu Asp Phe Ser Val Val Ala Gly  
 20 25 30  
 Ile Asp Glu Ala Gly Arg Gly Pro Leu Ala Gly Pro Val Val Ala Ser  
 35 40 45  
 Ala Cys Ile Leu Pro Lys Gly Lys Val Phe Pro Gly Val Asn Asp Ser  
 50 55 60  
 Lys Lys Leu Ser Pro Lys Gln Arg Ala Gln Val Arg Asp Ala Leu Met  
 65 70 75 80  
 Gln Asp Pro Glu Val Cys Phe Gly Ile Gly Val Ile Ser Val Glu Arg  
 85 90 95  
 Ile Asp Gln Val Asn Ile Leu Glu Ala Thr Lys Glu Ala Met Leu Gln  
 100 105 110  
 Ala Ile Ser Ser Leu Pro Ile Ser Pro Asp Ile Leu Leu Val Asp Gly  
 115 120 125  
 Leu Tyr Leu Pro His Asp Ile Pro Cys Lys Lys Ile Ile Gln Gly Asp  
 130 135 140  
 Ala Lys Ser Ala Ser Ile Ala Ala Ala Ser Ile Leu Ala Lys Glu His  
 145 150 155 160  
 Arg Asp Asp Leu Met Leu Gln Leu His Arg Leu Tyr Pro Glu Tyr Gly  
 165 170 175  
 Phe Asp Arg His Lys Gly Tyr Gly Thr Ser Leu His Val Glu Ala Ile  
 180 185 190  
 Arg Arg Tyr Gly Pro Ser Pro Cys His Arg Lys Ser Phe Ser Pro Ile  
 195 200 205  
 Lys Gln Met Cys Ala Ile Val  
 210 215

<210> 122  
 <211> 218  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 122  
 Glu Glu Leu Phe Ser Asn Lys Ala Asn Val Cys Tyr Cys Met Asn Lys  
 1 5 10 15  
 Ile Leu Val Asp Ser Pro Phe Ser Pro Asp His Gln Lys Cys Cys Pro  
 20 25 30  
 Lys Leu Phe Thr Ile Ser Ala Pro Ala Gly Val Gly Lys Thr Thr Leu  
 35 40 45  
 Val Arg Met Leu Glu Gln Glu Phe Ser Ser Ala Phe Ala Glu Thr Ile  
 50 55 60  
 Ser Val Thr Thr Arg Lys Pro Arg Glu Gly Glu Val Pro Gly Lys Asp  
 65 70 75 80  
 Tyr His Phe Val Ser His Glu Glu Phe Gln Arg Leu Leu Asp Arg Gln  
 85 90 95  
 Ala Leu Leu Glu Trp Val Phe Leu Phe Gly Glu Cys Tyr Gly Thr Ser  
 100 105 110  
 Met Leu Glu Ile Glu Arg Ile Trp Ser Leu Gly Lys His Ala Val Ala  
 115 120 125  
 Val Ile Asp Ile Gln Gly Ala Leu Phe Ile Arg Ser Arg Met Pro Ser  
 130 135 140  
 Val Ser Ile Phe Ile Ala Pro Pro Ser Gln Glu Glu Leu Glu Arg Arg  
 145 150 155 160

Leu Ala Ser Arg Gly Ser Glu Glu Gly Ser Gln Arg Lys Glu Arg Leu  
                                   165                                  170                                  175  
 Glu His Ser Leu Ile Glu Leu Ala Ala Asn Gln Phe Asp Tyr Val  
                                   180                                  185                                  190  
 Ile Ile Asn Asp Asp Leu Asn Gln Ala Tyr Arg Val Leu Lys Ser Ile  
                                   195                                  200                                  205  
 Phe Ile Ala Glu Glu His Arg Asn Ile Leu  
                                   210                                  215

<210> 123  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 123  
 Glu His Ile Met Ile Lys Lys Asp Arg Phe Thr Asn Glu Lys Leu Asn  
   1                                  5                                  10                                  15  
 Lys Leu Phe Asp Ser Pro Phe Ser Leu Val Asn Tyr Ala Ile Lys Gln  
                                   20                                  25                                  30  
 Ala Lys Ile Lys Ile Ala Lys Gly Asp Val Arg Ser Ser Asn Val Ala  
                                   35                                  40                                  45  
 Ile Glu Thr Leu Val Leu Leu Asp Arg Glu Gly Ile Gln Pro Glu Phe  
                                   50                                  55                                  60  
 Thr Glu Glu Ile Val Val Thr Ala Ser Pro Thr Val Glu Arg Lys Arg  
  65                                  70                                  75                                  80  
 Ser Glu His Thr Asn Ser Arg Lys Lys Asp Pro Ser Ala Tyr Thr Trp  
                                   85                                  90                                  95  
 Ser Asp Val Lys  
                                   100

<210> 124  
 <211> 554  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 124  
 Cys Lys Val Met Pro Gln Lys Val Leu Ile Thr Ser Ala Leu Pro Tyr  
   1                                  5                                  10                                  15  
 Ala Asn Gly Pro Leu His Phe Gly His Ile Ala Gly Val Tyr Leu Pro  
                                   20                                  25                                  30  
 Ala Asp Val Tyr Ala Arg Phe Arg Arg Leu Leu Gly Asp Asp Val Leu  
                                   35                                  40                                  45  
 Tyr Ile Cys Gly Ser Asp Glu Phe Gly Ile Ala Ile Thr Leu Asn Ala  
                                   50                                  55                                  60  
 Asp Arg Glu Gly Leu Gly Tyr Gln Glu Tyr Val Asp Met Tyr His Lys  
  65                                  70                                  75                                  80  
 Leu His Lys Asp Thr Phe Glu Lys Leu Gly Phe Ala Leu Asp Phe Phe  
                                   85                                  90                                  95  
 Ser Arg Thr Thr Asn Pro Phe His Ala Glu Leu Val Gln Asp Phe Tyr  
                                   100                                  105                                  110  
 Ser Gln Leu Lys Ala Ser Gly Leu Ile Glu Asn Arg Ile Ser Glu Gln  
                                   115                                  120                                  125  
 Leu Tyr Ser Glu Gln Glu Gln Arg Phe Leu Ala Asp Arg Tyr Val Glu  
                                   130                                  135                                  140  
 Gly Thr Cys Pro Arg Cys Gly Phe Asp His Ala Arg Gly Asp Glu Cys  
  145                                  150                                  155                                  160  
 Gln Ser Cys Gly Ala Asp Tyr Glu Ala Ile Asp Leu Ile Gly Pro Lys  
                                   165                                  170                                  175  
 Ser Lys Ile Ser Gly Val Glu Leu Val Lys Lys Glu Thr Glu His Ser  
                                   180                                  185                                  190

Tyr Phe Leu Leu Asp Arg Met Lys Asp Ala Leu Leu Ser Phe Ile Gln  
 195 200 205  
 Gly Cys Tyr Leu Pro Asp His Val Arg Lys Phe Val Val Asp Tyr Ile  
 210 215 220  
 Glu His Val Arg Ser Arg Ala Ile Thr Arg Asp Leu Ser Trp Gly Ile  
 225 230 235 240  
 Pro Val Pro Asp Phe Pro Gly Lys Val Phe Tyr Val Trp Phe Asp Ala  
 245 250 255  
 Pro Ile Gly Tyr Ile Ser Gly Thr Met Glu Trp Ala Ala Ser Gln Gly  
 260 265 270  
 Asn Pro Asp Glu Trp Lys Arg Phe Trp Leu Glu Asp Gly Val Glu Tyr  
 275 280 285  
 Val Gln Phe Ile Gly Lys Asp Asn Leu Pro Phe His Ser Val Val Phe  
 290 295 300  
 Pro Ala Met Glu Leu Gly Gln Lys Leu Asp Tyr Lys Lys Val Asp Ala  
 305 310 315 320  
 Leu Val Val Ser Glu Phe Tyr Leu Leu Glu Gly Arg Gln Phe Ser Lys  
 325 330 335  
 Ser Glu Gly Asn Tyr Val Asp Met Asp Lys Phe Leu Ser Ser Tyr Ser  
 340 345 350  
 Leu Asp Lys Leu Arg Tyr Val Leu Ala Ala Thr Ala Pro Glu Thr Ser  
 355 360 365  
 Asp Ser Glu Phe Thr Phe Leu Asp Phe Lys Thr Arg Cys Asn Ser Glu  
 370 375 380  
 Leu Val Gly Lys Phe Gly Asn Phe Ile Asn Arg Val Leu Ala Phe Ala  
 385 390 395 400  
 Glu Lys Asn His Tyr Asp Lys Leu Ser Tyr His Ser Val Val Leu Glu  
 405 410 415  
 Asp Ser Asp Arg Ala Phe Leu Glu Glu Ala Arg Gln Leu Val Arg Asp  
 420 425 430  
 Ala Glu Lys Cys Tyr Arg Glu Tyr Ser Leu Arg Lys Ala Thr Ser Val  
 435 440 445  
 Ile Met Ser Leu Ala Ala Leu Gly Asn Val Tyr Phe Asn Gln Gln Ala  
 450 455 460  
 Pro Trp Lys Leu Leu Lys Glu Gly Thr Arg Glu Arg Val Glu Ala Ile  
 465 470 475 480  
 Leu Phe Cys Ala Cys Tyr Cys Gln Lys Leu Leu Ala Leu Ile Ser Tyr  
 485 490 495  
 Pro Ile Ile Pro Glu Ser Ala Val Ala Ile Trp Glu Met Ile Ser Pro  
 500 505 510  
 Lys Ser Leu Glu Asn Cys Asn Leu Asp Thr Met Tyr Ala Arg Asp Leu  
 515 520 525  
 Trp Lys Glu Glu Ile Leu Asp Val Ile Asn Glu Glu Phe His Leu Lys  
 530 535 540  
 Ser Pro Arg Leu Leu Phe Thr Thr Val Glu  
 545 550

<210> 125  
 <211> 734  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 125  
 Asn Ser Met Glu Lys Ile Cys Gly Tyr Leu Glu Gln Ile Leu Val Glu  
 1 5 10 15  
 Asn Lys Asp Ser Gly Asp Ile Thr Ala Tyr Ile Lys Ile Pro Asn Lys  
 20 25 30  
 Thr Thr Pro Ile Leu Ile Lys Gly Lys Leu Pro Gln Pro Leu Glu Leu  
 35 40 45  
 Gly Ser Pro Ile Gln Ile Tyr Gly Val Trp Ser His Ser Pro Ser Asn  
 50 55 60



Thr	Lys	Tyr	Phe	Gln	Ile	His	Ser	Tyr	Asp	Ser	Pro	Leu	Leu	Tyr	Glu
65					70					75					80
Tyr	Arg	Gly	Val	Phe	His	Tyr	Leu	Thr	Ser	Lys	Leu	Ile	Lys	Gly	Ile
				85					90					95	
Gly	Pro	Lys	Ile	Ala	Glu	Lys	Ile	Ile	Glu	Lys	Phe	Gln	Glu	Lys	Thr
			100					105					110		
Cys	Tyr	Val	Leu	Asp	Ile	Thr	Pro	Glu	Arg	Leu	Ser	Glu	Val	Ser	Gly
		115					120					125			
Ile	Ser	Glu	Thr	Arg	Cys	Val	Ser	Ile	Cys	Lys	Gln	Leu	Cys	Glu	Gln
	130					135					140				
Lys	Ile	Leu	Arg	Lys	Thr	Leu	Leu	Phe	Leu	Gln	Glu	Tyr	Asn	Ile	Pro
145					150					155					160
Ile	His	Tyr	Gly	Val	Arg	Ile	Phe	Lys	Lys	Tyr	Gln	Glu	Lys	Ser	Ile
				165					170					175	
Glu	Lys	Ile	Cys	Glu	Asp	Pro	Phe	Leu	Leu	Ala	Arg	Glu	Met	Glu	Gly
			180					185					190		
Ile	Gly	Phe	Lys	Thr	Ala	Asp	Phe	Ile	Ala	Met	Lys	Leu	Gly	Val	Pro
	195					200					205				
Arg	Asn	Ser	Glu	Ser	Arg	Leu	Cys	Ala	Gly	Ile	Gln	His	Ser	Leu	Glu
	210					215					220				
Glu	Leu	Gln	Glu	Glu	Gly	His	Thr	Cys	Tyr	Pro	Ile	Glu	Leu	Leu	Ile
225					230					235					240
Asp	Val	Val	Ala	Lys	Leu	Leu	Asn	Gln	Asp	Val	Phe	Asp	Thr	Pro	Ile
				245					250					255	
Thr	Leu	Glu	Glu	Ile	Asp	Thr	Gln	Ile	Leu	Asn	Met	Gln	Lys	Arg	Lys
			260					265					270		
Leu	Leu	His	Ile	Gln	Asp	Ile	Ser	Gly	Thr	Leu	His	Val	Trp	Thr	Arg
		275					280					285			
Tyr	Leu	His	Leu	Ala	Glu	Lys	Thr	Ile	Val	Ser	Asp	Leu	Lys	Arg	Ile
	290					295					300				
Leu	Phe	Ser	Ser	Arg	Arg	Ile	Arg	Ser	Ile	Asp	Gly	Glu	Lys	Ala	Ile
305					310					315					320
Ala	Trp	Val	Glu	Glu	Asn	Leu	Ser	Ile	Asp	Leu	Ala	Glu	Gln	Gln	Arg
				325					330					335	
Glu	Ala	Ile	Lys	Ala	Cys	Phe	Ser	Glu	Lys	Leu	Leu	Ile	Ile	Thr	Gly
			340					345					350		
Gly	Pro	Gly	Thr	Gly	Lys	Ser	Thr	Ile	Thr	Gln	Ala	Ile	Leu	Lys	Ile
		355					360						365		
Phe	Glu	Gln	Val	Thr	His	Lys	Ile	Ile	Leu	Ala	Ala	Pro	Thr	Gly	Lys
	370					375					380				
Ala	Ala	Lys	Arg	Met	Thr	Glu	Ile	Thr	Gln	Lys	His	Ser	Val	Thr	Ile
385					390					395					400
His	Ala	Leu	Leu	Gln	Tyr	Asp	Phe	Lys	Thr	Lys	Ser	Phe	Arg	Lys	Asn
				405					410					415	
His	Asp	Asn	Pro	Ile	Asp	Cys	Asp	Leu	Ile	Ile	Val	Asp	Glu	Ser	Gly
		420						425					430		
Met	Met	Asp	Thr	His	Leu	Leu	His	His	Phe	Leu	Lys	Ala	Leu	Pro	Asp
		435					440					445			
Tyr	Thr	Thr	Leu	Val	Phe	Ile	Gly	Asp	Ile	His	Gln	Leu	Pro	Ser	Val
	450					455					460				
Gly	Pro	Gly	Asn	Ile	Leu	Lys	Asp	Leu	Ile	Thr	Ser	Asn	Lys	Met	Thr
465					470					475					480
Val	Ile	Arg	Leu	Asn	Lys	Ile	Phe	Arg	Gln	Val	His	Asp	Ser	Gly	Ile
				485					490					495	
Val	Thr	Asn	Ala	His	Arg	Val	Asn	Glu	Gly	Glu	Leu	Pro	Ile	Leu	Tyr
		500						505					510		
Ser	Glu	Thr	Gly	Arg	Arg	Asp	Phe	Leu	Phe	Phe	Gln	Lys	Asp	Asp	Gln
		515					520					525			
Glu	Glu	Ala	Leu	Asn	His	Ile	Ile	His	Leu	Val	Thr	Lys	Phe	Val	Pro
	530					535					540				

Gln	Lys	Tyr	His	Ile	Tyr	Pro	Gln	Asp	Ile	Gln	Val	Leu	Ala	Pro	Met
545					550					555					560
Lys	Lys	Gly	Thr	Leu	Gly	Ile	Tyr	Asn	Leu	Asn	Lys	Ala	Leu	Lys	His
				565						570					575
Ala	Leu	Asn	Pro	Lys	Lys	Ala	Asn	Leu	His	Gly	Arg	Phe	Gln	Ser	Tyr
			580						585					590	
Ala	Val	Gly	Asp	Lys	Val	Met	Gln	Ile	Arg	Asn	Asn	Tyr	Asn	Lys	Glu
		595					600					605			
Val	Phe	Asn	Gly	Asp	Ile	Gly	Tyr	Val	Ser	Thr	Ile	Asn	Phe	Glu	Asp
	610					615					620				
Lys	Ala	Val	Val	Val	Arg	Met	Glu	Gly	Lys	His	Val	Gly	Tyr	Ser	Phe
625					630					635					640
Ser	Glu	Leu	Asp	Asp	Leu	Val	Leu	Ala	Tyr	Ala	Thr	Ser	Val	His	Lys
			645							650					655
Tyr	Gln	Gly	Ser	Glu	Ser	Pro	Cys	Ile	Ile	Ile	Pro	Ile	His	Thr	Ser
			660					665					670		
His	Phe	Met	Met	Leu	Tyr	Arg	Asn	Leu	Leu	Tyr	Thr	Ala	Ile	Thr	Arg
		675					680					685			
Gly	Lys	Lys	Leu	Val	Ile	Leu	Val	Gly	Thr	Lys	Lys	Ala	Ile	Ala	Ile
	690					695					700				
Ala	Thr	Arg	Asn	Asn	Arg	Val	Gln	His	Arg	Cys	Thr	Gly	Leu	Ala	Glu
705					710					715					720
Val	Leu	Lys	Glu	Leu	Asp	Thr	Lys	Lys	Asn	Tyr	Ala	Asp	Leu		
				725						730					

<210> 126

<211> 498

<212> PRT

<213> Chlamydia pneumoniae

<400> 126

Ile	Arg	Ser	Lys	Gln	Arg	Thr	Val	Ala	Ile	Thr	Leu	Leu	Val	Leu	Gly
1				5					10					15	
Ile	Leu	Leu	Ile	Ala	Ser	Gly	Ile	Ile	Phe	Leu	Ala	Val	Ala	Ile	Pro
			20					25					30		
Gly	Leu	Ser	Ser	Ala	Val	Ala	Leu	Gly	Leu	Gly	Cys	Gly	Met	Thr	Ala
		35					40					45			
Leu	Gly	Thr	Val	Leu	Leu	Ile	Thr	Gly	Leu	Val	Leu	Leu	Ile	Arg	Ser
	50					55					60				
Glu	Lys	Leu	Ala	Leu	Glu	Gln	Val	Glu	Ile	Lys	Gln	Ala	Arg	Thr	Arg
65					70					75					80
Val	Asn	Asn	Glu	Leu	Asp	Gln	Leu	Ser	Gln	Tyr	Val	Phe	Tyr	Thr	Glu
			85						90					95	
Asn	Val	Leu	Asp	Asn	Leu	Lys	Arg	Trp	Ser	Tyr	Arg	Asp	Leu	Gly	Phe
			100					105					110		
Val	Arg	Gln	Ala	Gln	Glu	Glu	Val	Thr	Asn	Leu	Glu	Gln	Asp	Ile	Glu
		115					120					125			
Glu	Ile	Phe	Leu	Thr	Leu	Arg	Asp	Ile	Arg	Asn	Ala	Leu	Asp	Asn	Glu
	130					135					140				
Glu	Phe	Phe	Met	Thr	His	Ala	Lys	Gln	Cys	Leu	Ala	Gln	Val	Gly	Glu
145					150					155					160
Ser	Leu	Phe	Gln	Asp	Ala	Ser	Ile	Asp	Glu	Phe	Ile	Asn	Leu	Ala	His
			165						170					175	
Leu	Ser	Glu	Ile	Arg	Gln	His	Leu	Asp	Ile	Asn	Asp	Pro	Arg	Trp	Ser
			180					185					190		
Met	Ile	Thr	Lys	Lys	Val	Lys	Gly	Thr	Val	Val	Arg	Phe	Ile	Tyr	Val
		195					200					205			
Ser	Thr	Met	Tyr	Lys	Gln	Ile	Lys	Ser	Asn	Phe	Glu	Lys	Ser	Asp	Phe
	210					215					220				
Gly	Gln	Leu	Arg	Lys	Met	Leu	Leu	Asn	Asn	Tyr	Lys	Thr	Ile	Glu	Glu
225					230					235					240

Val Leu Tyr Gln Ser Phe Gln Lys Gly Tyr Asn Arg Ala Ala Leu Leu  
 245 250 255  
 Ser Glu Lys Thr Arg Ile Ile His Thr Ser Ser Leu Leu His Trp Glu  
 260 265 270  
 Lys Asp Glu Asp Lys His Leu Asn Ile Lys Asn Glu Cys Ala Ser Arg  
 275 280 285  
 Leu Glu Asn Phe Lys Lys Phe Arg Thr Leu Phe Leu Gly Leu Ser Glu  
 290 295 300  
 Glu Asp Val Ile Asp Phe Thr Gly Ala Ser Gly Trp Asp Cys Ser Lys  
 305 310 315 320  
 Leu Pro Arg Lys Glu Val Pro Leu Asp Gly Gly Lys Lys Lys Leu Arg  
 325 330 335  
 Phe Lys Arg Thr Phe Ala Asp Glu Gln Val Gly Asp Trp Asp Arg Thr  
 340 345 350  
 Thr Ser Leu Glu His Met Thr Pro Gln Glu Glu Asp Pro Leu Asp Arg  
 355 360 365  
 Leu Met Asp Gln Val Glu Gln Glu Ala Thr Ser Val Leu Lys Asp Gln  
 370 375 380  
 Asp Arg Tyr Trp Lys Glu Ile Glu Thr Ser Glu Ala Lys Phe Arg Ser  
 385 390 395 400  
 Leu Pro Arg Glu Asp Asp Phe Glu Lys Gln Ser Gln Ile Asp Ser Tyr  
 405 410 415  
 Ile Arg Asp Leu Asp Asp His Leu Ser Val Trp Ala Asn Gln Leu Ser  
 420 425 430  
 Ala Ala Glu Asp Ala Leu Ile Glu Val Thr Asp Val Gln Glu His Gly  
 435 440 445  
 Asn Arg Glu Met Leu Lys Asn Ile Gln Gln Gly Leu Glu Leu Ile Glu  
 450 455 460  
 Asp Ala Val Lys Ala Thr Leu Pro Arg Val Asp Phe Ile Gln Glu Leu  
 465 470 475 480  
 Leu Glu Lys Glu Glu Leu Pro Leu Val Ala Ala Arg Met Ser Leu Glu  
 485 490 495  
 Asn Ser

<210> 127  
 <211> 178  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 127  
 Lys Ile Ser Ser Cys Ala Glu Ile Met Ser Glu Val Lys Pro Leu Phe  
 1 5 10 15  
 Leu Lys Asn Asp Ser Phe Asp Leu Ala Thr Gln Arg Phe Gln Asn Leu  
 20 25 30  
 Ile Asn Met Leu Gln Glu Gln Ala Glu Ile Tyr Asn Glu Tyr Glu Glu  
 35 40 45  
 Lys Asn Ala Arg Val Gln Asn Glu Ile Lys Glu Gln Lys Asp Phe Val  
 50 55 60  
 Lys Arg Cys Ile Glu Asp Phe Glu Ala Arg Gly Leu Gly Val Leu Lys  
 65 70 75 80  
 Glu Glu Leu Ala Ser Leu Thr Arg Asp Phe His Asp Lys Ala Lys Ala  
 85 90 95  
 Glu Thr Ser Met Leu Ile Glu Cys Pro Cys Ile Gly Phe Tyr Tyr Ser  
 100 105 110  
 Ile His Gln Glu Glu Gln Arg Gln Arg Gln Glu Arg Leu Gln Lys Met  
 115 120 125  
 Ala Glu Arg Tyr Arg Asp Cys Lys Gln Val Leu Glu Ala Val Gln Val  
 130 135 140  
 Glu Gln Lys Asp Met Ile Ser Ser Arg Val Val Val Asp Asp Ser Tyr  
 145 150 155 160

Phe Glu Glu Glu Lys Glu Glu Gln Lys Val Asp Asn Arg Lys Lys Glu  
 165 170 175  
 Gln Asp

<210> 128  
 <211> 760  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 128  
 Leu Leu Val Phe Ser Tyr Tyr Cys Met Gly Leu Phe Phe Phe Ser Gly  
 1 5 10 15  
 Ala Ile Ser Ser Cys Gly Leu Leu Val Ser Leu Gly Val Gly Leu Gly  
 20 25 30  
 Leu Ser Val Leu Gly Val Leu Leu Leu Leu Leu Ala Gly Leu Leu Leu  
 35 40 45  
 Phe Lys Ile Gln Ser Met Leu Arg Glu Val Pro Lys Ala Pro Asp Leu  
 50 55 60  
 Leu Asp Leu Glu Asp Ala Ser Glu Arg Leu Arg Val Lys Ala Ser Arg  
 65 70 75 80  
 Ser Leu Ala Ser Leu Pro Lys Glu Ile Ser Gln Leu Glu Ser Tyr Ile  
 85 90 95  
 Arg Ser Ala Ala Asn Asp Leu Asn Thr Ile Lys Thr Trp Pro His Lys  
 100 105 110  
 Asp Gln Arg Leu Val Glu Thr Val Ser Arg Lys Leu Glu Arg Leu Ala  
 115 120 125  
 Ala Ala Gln Asn Tyr Met Ile Ser Glu Leu Cys Glu Ile Ser Glu Ile  
 130 135 140  
 Leu Glu Glu Glu Glu His His Leu Ile Leu Ala Gln Glu Ser Leu Glu  
 145 150 155 160  
 Trp Ile Gly Lys Ser Leu Phe Ser Thr Phe Leu Asp Met Glu Ser Phe  
 165 170 175  
 Leu Asn Leu Ser His Leu Ser Glu Val Arg Pro Tyr Leu Ala Val Asn  
 180 185 190  
 Asp Pro Arg Leu Leu Glu Ile Thr Glu Glu Ser Trp Glu Val Val Ser  
 195 200 205  
 His Phe Ile Asn Val Thr Ser Ala Phe Lys Lys Ala Gln Ile Leu Phe  
 210 215 220  
 Lys Asn Asn Glu His Ser Arg Met Lys Lys Lys Leu Glu Ser Val Gln  
 225 230 235 240  
 Glu Leu Leu Glu Thr Phe Ile Tyr Lys Ser Leu Lys Arg Ser Tyr Arg  
 245 250 255  
 Glu Leu Gly Cys Leu Ser Glu Lys Met Arg Ile Ile His Asp Asn Pro  
 260 265 270  
 Leu Phe Pro Trp Val Gln Asp Gln Gln Lys Tyr Ala His Ala Lys Asn  
 275 280 285  
 Glu Phe Gly Glu Ile Ala Arg Cys Leu Glu Glu Phe Glu Lys Thr Phe  
 290 295 300  
 Phe Trp Leu Asp Glu Glu Cys Ala Ile Ser Tyr Met Asp Cys Trp Asp  
 305 310 315 320  
 Phe Leu Asn Glu Ser Ile Gln Asn Lys Lys Ser Arg Val Asp Arg Asp  
 325 330 335  
 Tyr Ile Ser Thr Lys Lys Ile Ala Leu Lys Asp Arg Ala Arg Thr Tyr  
 340 345 350  
 Ala Lys Val Leu Leu Glu Glu Asn Pro Thr Thr Glu Gly Lys Ile Asp  
 355 360 365  
 Leu Gln Asp Ala Gln Arg Ala Phe Glu Arg Gln Ser Gln Glu Phe Tyr  
 370 375 380  
 Thr Leu Glu His Thr Glu Thr Lys Val Arg Leu Glu Ala Leu Gln Gln  
 385 390 395 400

Cys Phe Ser Asp Leu Arg Glu Ala Thr Asn Val Arg Gln Val Arg Phe  
 405 410 415  
 Thr Asn Ser Glu Asn Ala Asn Asp Leu Lys Glu Ser Phe Glu Lys Ile  
 420 425 430  
 Asp Lys Glu Arg Val Arg Tyr Gln Lys Glu Gln Arg Leu Tyr Trp Glu  
 435 440 445  
 Thr Ile Asp Arg Asn Glu Gln Glu Leu Arg Glu Glu Ile Gly Glu Ser  
 450 455 460  
 Leu Arg Leu Gln Asn Arg Arg Lys Gly Tyr Arg Ala Gly Tyr Asp Ala  
 465 470 475 480  
 Gly Arg Leu Lys Gly Leu Leu Arg Gln Trp Lys Lys Asn Leu Arg Asp  
 485 490 495  
 Val Glu Ala His Leu Glu Asp Ala Thr Met Asp Phe Glu His Glu Val  
 500 505 510  
 Ser Lys Ser Glu Leu Cys Ser Val Arg Ala Arg Leu Glu Val Leu Glu  
 515 520 525  
 Glu Glu Leu Met Asp Met Ser Pro Lys Val Ala Asp Ile Glu Glu Leu  
 530 535 540  
 Leu Ser Tyr Glu Glu Arg Cys Ile Leu Pro Ile Arg Glu Asn Leu Glu  
 545 550 555 560  
 Arg Ala Tyr Leu Gln Tyr Asn Lys Cys Ser Glu Ile Leu Ser Lys Ala  
 565 570 575  
 Lys Phe Phe Phe Pro Glu Asp Glu Gln Leu Leu Val Ser Glu Ala Asn  
 580 585 590  
 Leu Arg Glu Val Gly Ala Gln Leu Lys Gln Val Gln Gly Lys Cys Gln  
 595 600 605  
 Glu Arg Ala Gln Lys Phe Ala Ile Phe Glu Lys His Ile Gln Glu Gln  
 610 615 620  
 Lys Ser Leu Ile Lys Glu Gln Val Arg Ser Phe Asp Leu Ala Gly Val  
 625 630 635 640  
 Gly Phe Leu Lys Ser Glu Leu Leu Ser Ile Ala Cys Asn Leu Tyr Ile  
 645 650 655  
 Lys Ala Val Val Lys Glu Ser Ile Pro Val Asp Val Pro Cys Met Gln  
 660 665 670  
 Leu Tyr Tyr Ser Tyr Tyr Glu Asp Asn Glu Ala Val Val Arg Asn Arg  
 675 680 685  
 Leu Leu Asn Met Thr Glu Arg Tyr Gln Asn Phe Lys Arg Ser Leu Asn  
 690 695 700  
 Ser Ile Gln Phe Asn Gly Asp Val Leu Leu Arg Asp Pro Val Tyr Gln  
 705 710 715 720  
 Pro Glu Gly His Glu Thr Arg Leu Lys Glu Arg Glu Leu Gln Glu Thr  
 725 730 735  
 Thr Leu Ser Cys Lys Lys Leu Lys Val Ala Gln Asp Arg Leu Ser Glu  
 740 745 750  
 Leu Glu Ser Arg Leu Ser Arg Arg  
 755 760

<210> 129

<211> 341

<212> PRT

<213> Chlamydia pneumoniae

<400> 129

Glu Ser Phe Met Phe Pro Ser Ala Asn Gln Glu Ser Arg Thr Arg Asn  
 1 5 10 15  
 Val Pro Leu Gly Ile Phe His Gly Leu Val Ala Cys Leu Tyr Trp Gly  
 20 25 30  
 Ile Val Phe Val Ile Pro Asn Phe Leu Gly Ser Phe Gly Asp Leu Asp  
 35 40 45  
 Ile Val Leu Thr Arg Tyr Thr Ile Phe Gly Ile Phe Ser Leu Ile Ala  
 50 55 60

Cys	Ala	Ile	Lys	Asn	Pro	Ser	Val	Ile	Lys	Lys	Thr	Pro	Leu	Tyr	Ile
65					70					75					80
Trp	Arg	Lys	Ser	Leu	Leu	Trp	Thr	Leu	Leu	Ile	Asn	Pro	Val	Tyr	Tyr
			85						90					95	
Phe	Gly	Ile	Thr	Leu	Gly	Ile	Arg	Tyr	Val	Gly	Ser	Ala	Ile	Thr	Val
			100					105					110		
Val	Ile	Ala	Ser	Leu	Ala	Pro	Thr	Ala	Val	Leu	Tyr	His	Ser	Asn	Thr
		115					120					125			
Lys	Gln	Lys	Glu	Leu	Pro	Tyr	Ser	Leu	Leu	Phe	Ala	Ile	Ser	Ser	Val
	130					135					140				
Ile	Ile	Thr	Gly	Val	Ile	Leu	Thr	His	Leu	Ser	Ala	Leu	Asn	Leu	Pro
145					150					155					160
Thr	Ala	Ala	Ser	Pro	Leu	Tyr	Ser	Ile	Leu	Gly	Val	Ile	Ala	Val	Ile
				165					170					175	
Leu	Ser	Thr	Ser	Leu	Trp	Val	Ile	Tyr	Val	Ile	Arg	Asn	Gln	Ser	Leu
			180					185					190		
Leu	Glu	Lys	His	Pro	Asn	Leu	Thr	Pro	Asp	Thr	Trp	Ser	Tyr	Leu	Ile
		195					200					205			
Gly	Ile	Ser	Ala	Leu	Ile	Ile	Cys	Leu	Pro	Met	Ile	Ile	Ile	Leu	Asp
	210					215					220				
Leu	Cys	Gly	Ile	Thr	His	Val	Thr	His	Asn	Leu	Ile	Ser	His	Thr	Pro
225					230					235					240
Gly	Ser	Glu	Arg	Leu	Leu	Phe	Leu	Leu	Leu	Cys	Ser	Ala	Met	Gly	Ile
				245					250					255	
Phe	Ser	Ser	Ala	Lys	Ala	Leu	Ile	Ala	Trp	Asn	Lys	Ala	Ser	Leu	Asn
			260					265					270		
Leu	Ser	Pro	Ala	Leu	Leu	Gly	Ala	Ile	Leu	Ile	Phe	Glu	Pro	Ile	Phe
		275					280						285		
Gly	Leu	Val	Leu	Thr	Tyr	Leu	Tyr	Ser	Gln	Ser	Leu	Pro	Ser	Leu	Gln
	290					295					300				
Glu	Gly	Ile	Gly	Ile	Phe	Leu	Met	Leu	Gly	Gly	Ser	Leu	Leu	Cys	Leu
305					310					315					320
Val	Leu	Phe	Gly	Arg	Lys	Val	Gln	Lys	Ser	Leu	Glu	Asn	Ser	Gln	Val
				325					330					335	
Ser	Ser	Ser	Asn	Glu											
			340												

<210> 130

<211> 264

<212> PRT

<213> Chlamydia pneumoniae

<400> 130

Glu	Asp	Arg	Gly	Arg	Met	Leu	Arg	Asn	Gln	Val	Leu	Val	Tyr	Cys	Ser
1				5					10					15	
Glu	Gly	Val	Ser	Pro	Tyr	Tyr	Leu	Arg	His	Thr	Ile	Arg	Phe	Leu	Lys
			20					25					30		
Tyr	Tyr	Ser	Thr	Gln	Glu	Gly	Ala	Phe	Asp	Ile	Leu	Arg	Val	Asp	Gly
		35				40						45			
Asn	Phe	Leu	Ile	Lys	Asn	Pro	Phe	Trp	Glu	Glu	Thr	Thr	Arg	Leu	Leu
	50					55					60				
Val	Phe	Pro	Gly	Gly	Ala	Asp	Arg	Pro	Tyr	His	Arg	Val	Leu	His	Gly
65					70					75					80
Leu	Gly	Thr	Ala	Arg	Ile	Phe	Gln	Tyr	Val	Ser	Glu	Gly	Gly	Asn	Phe
				85					90					95	
Leu	Gly	Ile	Cys	Ala	Gly	Ala	Tyr	Phe	Gly	Ser	Lys	Met	Ile	Tyr	Phe
			100					105					110		
Tyr	Glu	Pro	Glu	Gly	Ala	Pro	Leu	Gln	Gly	Ala	Arg	Asp	Leu	Gly	Phe
		115					120					125			
Phe	Pro	Gly	Thr	Ala	Lys	Gly	Pro	Ala	Tyr	Arg	Gly	Asn	Phe	Ser	Tyr
	130					135						140			

Val Ser Pro Ser Gly Val Arg Val Ser Pro Gln Leu Phe Ser Asp Phe  
 145 150 155 160  
 Gly Leu Gly Tyr Ala Met Phe Asn Gly Gly Cys Phe Phe Glu Gly Ser  
 165 170 175  
 Glu Gly Tyr Pro Gly Val Asn Ile Glu Ser Arg Tyr Asp Asp Leu Pro  
 180 185 190  
 Gly Lys Pro Ala Ser Ile Val Ser Arg Ile Val Ser Lys Gly Leu Ala  
 195 200 205  
 Val Leu Ser Gly Pro His Ile Glu Tyr Leu Pro His Tyr Cys Arg Met  
 210 215 220  
 Val Lys Glu Asn Val Gln Lys Thr Arg Glu Phe Leu Gln Arg Glu Arg  
 225 230 235 240  
 Thr Thr Leu Asp Arg Tyr Cys Gln Asn Leu Val Gln Arg Leu Arg Gln  
 245 250 255  
 Pro Ala Phe Ser Lys Ala Asp Cys  
 260

<210> 131  
 <211> 228  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 131  
 Asp Glu Gln Tyr Ile Leu Ser His Ile His Met Asp Pro Arg Ile Phe  
 1 5 10 15  
 Val Thr Ser Glu Pro Leu Gln Lys Thr Tyr Gln Lys Leu Gln Glu Lys  
 20 25 30  
 His Val Asn Asn Leu Gly Ile Ala Ser Gln Val Ser Leu Thr Asp Leu  
 35 40 45  
 Gln Asn Lys Thr Gln Tyr Glu Asn Asn Leu Ile Glu Thr Thr Thr Asn  
 50 55 60  
 Glu Ile Thr Tyr Tyr Phe Pro Val Val His Asn Pro Asp Ile Leu Arg  
 65 70 75 80  
 Ser Glu Trp Asp Pro Ile Ser Asn Gln Leu Tyr Leu Ile Phe Lys Lys  
 85 90 95  
 Phe Phe Ile His Tyr His Asn Leu Phe Ser Thr Ala Leu Glu Arg Asn  
 100 105 110  
 Gln Ile Leu Leu Ile Asp Ser Leu Asn Thr Gly Ser Ser Asn Pro Ile  
 115 120 125  
 Ala Arg Gln Met Glu Leu Leu Ala Phe Leu Cys Val Phe Glu Gln Leu  
 130 135 140  
 Asp Tyr Asn Glu Asp Glu Tyr Thr Ile Glu Pro Arg Asp Tyr Phe Asn  
 145 150 155 160  
 Arg Phe Val Tyr Lys Asn Ser Gln Thr Ala Pro Gln Ile Gln Ser Phe  
 165 170 175  
 Gly Leu Leu His Gly Tyr Glu Glu Met Ser Tyr Ala Ser Asn Asn Ile  
 180 185 190  
 Arg Asn Val Leu Thr His Ser Ile Val Leu Cys Ser Pro Ile Leu Tyr  
 195 200 205  
 Gln Leu Ile Thr Glu Phe Asp Thr Thr Lys Ile His Ala Asp Asp Phe  
 210 215 220  
 Asp Cys Leu Ile  
 225

<210> 132  
 <211> 167  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 132  
 Ser Ser Met Val Lys Cys Ser Ser Ile Ile His Glu Asn Lys Lys Pro  
 1 5 10 15  
 Ala Gln Leu Leu Pro Glu Ser Lys Phe Ala Ala Ile Thr Lys Leu Ser  
 20 25 30  
 Leu Ala Ile Leu Ser Leu Phe Leu Gly Ile Ala Ala Cys Ile Leu Ile  
 35 40 45  
 Ala Leu Ser Gly Leu Leu Pro Asn Thr Leu Leu Ile Ile Ala Leu Ser  
 50 55 60  
 Leu Ile Ser Ile Ile Val Leu Ser Thr Gly Ile Ser Leu Leu Ile Gly  
 65 70 75 80  
 Thr Gln Cys Ser Lys Ser Val Gln Lys Asp Glu Gln Lys Pro Lys Ser  
 85 90 95  
 Ile Phe Pro Lys Glu Thr Pro Ser Leu Asp Pro Trp Leu Leu Asn Pro  
 100 105 110  
 Leu Lys Asn Lys Ile Gln Ser Ser Glu Thr Leu Leu Leu Asp Pro Thr  
 115 120 125  
 Ser Ile Asn Leu Lys Asn Glu Leu Phe Phe Pro Ser Phe Glu Glu Trp  
 130 135 140  
 Lys Lys Ile Phe Leu Lys Asp Pro Asp Phe Leu Ile Lys Ser Ala Leu  
 145 150 155 160  
 Ala Asn Trp Lys Ile Leu Glu  
 165

<210> 133  
 <211> 380  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 133  
 Phe Ser Ser Leu Lys Lys Glu Arg Phe Ser Leu Ser Leu Ala Ile Phe  
 1 5 10 15  
 Leu Ile Phe Phe Phe Thr Ser Ala Tyr Val Phe Pro Ser Ile Cys Phe  
 20 25 30  
 Leu Glu Leu Phe Met Glu Asn Ala Met Ser Ser Ser Phe Val Tyr Asn  
 35 40 45  
 Gly Pro Ser Trp Ile Leu Lys Thr Ser Val Ala Gln Glu Val Phe Lys  
 50 55 60  
 Lys His Gly Lys Gly Ile Gln Val Leu Leu Ser Thr Ser Val Met Leu  
 65 70 75 80  
 Phe Ile Gly Leu Gly Val Cys Ala Phe Ile Phe Pro Gln Tyr Leu Ile  
 85 90 95  
 Val Phe Val Leu Thr Ile Ala Leu Leu Met Leu Ala Ile Ser Leu Val  
 100 105 110  
 Leu Phe Leu Leu Ile Arg Ser Val Arg Ser Ser Met Val Asp Arg Leu  
 115 120 125  
 Trp Cys Ser Glu Lys Gly Tyr Ala Leu His Gln His Glu Asn Gly Pro  
 130 135 140  
 Phe Leu Asp Val Lys Arg Val Gln Gln Ile Leu Leu Arg Ser Pro Tyr  
 145 150 155 160  
 Ile Lys Val Arg Ala Leu Trp Pro Ser Gly Asp Ile Pro Glu Asp Pro  
 165 170 175  
 Ser Gln Ala Ala Val Leu Leu Leu Ser Pro Trp Thr Phe Phe Ser Ser  
 180 185 190  
 Val Asp Val Glu Ala Leu Leu Pro Ser Pro Gln Glu Lys Glu Gly Lys  
 195 200 205  
 Tyr Ile Asp Pro Val Leu Pro Lys Leu Ser Arg Ile Glu Arg Val Ser  
 210 215 220  
 Leu Leu Val Phe Leu Ser Ala Phe Thr Leu Asp Asp Leu Asn Glu Gln  
 225 230 235 240



Gly	Val	Asn	Pro	Leu	Met	Asn	Asn	Glu	Glu	Phe	Leu	Phe	Phe	Ile	Asn
				245					250					255	
Lys	Lys	Ala	Arg	Glu	His	Gly	Ile	Gln	Asp	Leu	Lys	His	Glu	Ile	Met
			260					265						270	
Ser	Ser	Leu	Glu	Lys	Thr	Gly	Val	Pro	Leu	Asp	Pro	Ser	Met	Ser	Phe
		275					280						285		
Gln	Val	Ser	Gln	Ala	Met	Phe	Ser	Val	Tyr	Arg	Tyr	Leu	Arg	Gln	Arg
		290				295					300				
Asp	Leu	Thr	Thr	Ser	Glu	Leu	Arg	Cys	Phe	His	Leu	Leu	Ser	Cys	Phe
305					310					315					320
Lys	Gly	Asp	Val	Val	His	Cys	Leu	Ala	Ser	Phe	Glu	Asn	Pro	Lys	Asp
				325					330					335	
Leu	Ala	Asp	Ser	Asp	Phe	Leu	Glu	Ala	Cys	Lys	Asn	Val	Glu	Trp	Gly
			340				345						350		
Glu	Phe	Ile	Ser	Ala	Cys	Glu	Lys	Ala	Leu	Leu	Lys	Asn	Pro	Gln	Gly
		355				360						365			
Ile	Ser	Ile	Lys	Asp	Leu	Lys	Gln	Phe	Leu	Val	Arg				
	370					375					380				

<210> 134

<211> 326

<212> PRT

<213> Chlamydia pneumoniae

<400> 134

Ser	Met	Ile	Glu	Phe	Ala	Phe	Val	Pro	His	Thr	Ser	Val	Thr	Ala	Asp
1				5					10					15	
Arg	Ile	Glu	Asp	Arg	Met	Ala	Cys	Arg	Met	Asn	Lys	Leu	Ser	Thr	Leu
			20					25					30		
Ala	Ile	Thr	Ser	Leu	Cys	Val	Leu	Ile	Ser	Ser	Val	Cys	Ile	Met	Ile
		35				40						45			
Gly	Ile	Leu	Cys	Ile	Ser	Gly	Thr	Val	Gly	Thr	Tyr	Ala	Phe	Val	Val
	50					55					60				
Gly	Ile	Ile	Phe	Ser	Val	Leu	Ala	Leu	Val	Ala	Cys	Val	Phe	Phe	Leu
65					70					75					80
Tyr	Phe	Phe	Tyr	Phe	Ser	Ser	Glu	Glu	Phe	Lys	Cys	Ala	Ser	Ser	Gln
				85					90					95	
Glu	Phe	Arg	Phe	Leu	Pro	Ile	Pro	Ala	Val	Val	Ser	Ala	Leu	Arg	Ser
			100					105					110		
Tyr	Glu	Tyr	Ile	Ser	Gln	Asp	Ala	Ile	Asn	Asp	Val	Ile	Lys	Asp	Thr
	115					120						125			
Met	Gln	Leu	Ser	Thr	Leu	Ser	Ser	Leu	Leu	Asp	Pro	Glu	Ala	Phe	Phe
	130					135					140				
Leu	Glu	Phe	Pro	Tyr	Phe	Asn	Ser	Leu	Ile	Val	Asn	His	Ser	Met	Lys
145					150					155					160
Glu	Ala	Asp	Arg	Leu	Ser	Arg	Glu	Ala	Phe	Leu	Ile	Leu	Leu	Gly	Glu
				165					170					175	
Ile	Thr	Trp	Lys	Asp	Cys	Glu	Thr	Lys	Ile	Leu	Pro	Trp	Leu	Lys	Asp
		180						185					190		
Pro	Asn	Ile	Thr	Pro	Asp	Asp	Phe	Trp	Lys	Leu	Leu	Lys	Asp	His	Phe
	195						200					205			
Asp	Leu	Lys	Asp	Phe	Lys	Lys	Arg	Ile	Ala	Thr	Trp	Ile	Arg	Lys	Ala
	210					215						220			
Tyr	Pro	Glu	Ile	Arg	Leu	Pro	Lys	Lys	His	Cys	Leu	Asp	Lys	Ser	Ile
225					230					235					240
Tyr	Lys	Gly	Cys	Cys	Lys	Phe	Leu	Leu	Leu	Ser	Glu	Asn	Asp	Val	Gln
			245						250					255	
Tyr	Gln	Arg	Leu	Leu	His	Lys	Val	Cys	Tyr	Phe	Ser	Gly	Glu	Phe	Pro
		260						265					270		
Ala	Met	Val	Leu	Gly	Leu	Gly	Ser	Glu	Val	Pro	Met	Val	Leu	Gly	Leu
		275					280						285		

Pro Lys Val Pro Lys Asp Leu Thr Trp Glu Met Phe Met Glu Asn Met  
 290 295 300  
 Pro Val Leu Leu Gln Ser Lys Arg Glu Gly His Trp Lys Ile Ser Leu  
 305 310 315 320  
 Glu Asp Val Ala Ser Leu  
 325

<210> 135  
 <211> 262  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 135  
 Asn Ser Ser Ala Tyr Met Phe Lys Leu Leu Lys Asn Leu Phe Leu Ile  
 1 5 10 15  
 Gly Cys Cys Ile Val Gly Tyr Phe Trp Met Arg Lys Glu Ser Ile Val  
 20 25 30  
 Glu Gln Trp Leu Ser Asn Arg Leu His Thr Gln Val Thr Val Gly Arg  
 35 40 45  
 Val Ser Ile Arg Thr Ser Gly Ile Lys Ile Arg His Ile Cys Ile His  
 50 55 60  
 Asn Pro Leu Ala Ser Glu Arg Phe Pro Tyr Ala Ala Glu Ile Glu Tyr  
 65 70 75 80  
 Ala Asp Val Arg Phe Ser Ser Ile Ser Met Leu Leu Thr Lys Gln Leu  
 85 90 95  
 Glu Ile Ser Glu Leu Ile Ile His Gly Ala Asn Phe Thr Ile Phe Pro  
 100 105 110  
 Tyr Asp Ser His Gly Thr Lys Thr Asn Trp Ser Leu Val Trp Lys Asn  
 115 120 125  
 Phe His Pro Gln Lys Glu Thr Pro Ser Asn Leu Trp Ile Asp Arg Ala  
 130 135 140  
 Pro Val Leu Ile Arg Arg Cys Leu Phe Leu Asn Thr Arg Leu Tyr Gly  
 145 150 155 160  
 Leu Arg Ala Asn His Lys Asp Ile Pro His Leu Ser Val Pro Ser Leu  
 165 170 175  
 Glu Phe His Ser His Thr Ser Ser Ala Lys Glu Leu Pro Lys Leu Ser  
 180 185 190  
 Glu Ala Leu Pro Ser Leu Leu Tyr Leu Ala Leu Glu Glu Ser Leu Tyr  
 195 200 205  
 His Leu Asn Leu Pro Gly Asp Ile Ile Lys Pro Leu Ser Gln Gln Ala  
 210 215 220  
 His Lys His Phe Tyr Ser Ser Tyr Pro Gln Phe Gln Asp Arg Leu Asn  
 225 230 235 240  
 Asp Ile Asn Thr Pro Gly Thr Pro Thr Glu Glu Ile Ile Gly Phe Ile  
 245 250 255  
 Arg Gly Leu Phe Phe His  
 260

<210> 136  
 <211> 555  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 136  
 Phe Ala Asp Tyr Arg Lys Leu Arg Arg Thr Thr Met Ala Ala Lys Asn  
 1 5 10 15  
 Ile Lys Tyr Asn Glu Glu Ala Arg Lys Lys Ile His Lys Gly Val Lys  
 20 25 30  
 Thr Leu Ala Glu Ala Val Lys Val Thr Leu Gly Pro Lys Gly Arg His  
 35 40 45

Val	Val	Ile	Asp	Lys	Ser	Phe	Gly	Ser	Pro	Gln	Val	Thr	Lys	Asp	Gly
50						55				60					
Val	Thr	Val	Ala	Lys	Glu	Ile	Glu	Leu	Glu	Asp	Lys	His	Glu	Asn	Met
65				70					75					80	
Gly	Ala	Gln	Met	Val	Lys	Glu	Val	Ala	Ser	Lys	Thr	Ala	Asp	Lys	Ala
			85						90					95	
Gly	Asp	Gly	Thr	Thr	Thr	Ala	Thr	Val	Leu	Ala	Glu	Ala	Ile	Tyr	Ser
			100					105					110		
Glu	Gly	Leu	Arg	Asn	Val	Thr	Ala	Gly	Ala	Asn	Pro	Met	Asp	Leu	Lys
		115						120				125			
Arg	Gly	Ile	Asp	Lys	Ala	Val	Lys	Val	Val	Val	Asp	Glu	Leu	Lys	Lys
130						135					140				
Ile	Ser	Lys	Pro	Val	Gln	His	His	Lys	Glu	Ile	Ala	Gln	Val	Ala	Thr
145				150						155				160	
Ile	Ser	Ala	Asn	Asn	Asp	Ser	Glu	Ile	Gly	Asn	Leu	Ile	Ala	Glu	Ala
			165						170					175	
Met	Glu	Lys	Val	Gly	Lys	Asn	Gly	Ser	Ile	Thr	Val	Glu	Glu	Ala	Lys
			180					185					190		
Gly	Phe	Glu	Thr	Val	Leu	Asp	Val	Val	Glu	Gly	Met	Asn	Phe	Asn	Arg
		195					200					205			
Gly	Tyr	Leu	Ser	Ser	Tyr	Phe	Ser	Thr	Asn	Pro	Glu	Thr	Gln	Glu	Cys
210						215					220				
Val	Leu	Glu	Asp	Ala	Leu	Ile	Leu	Ile	Tyr	Asp	Lys	Lys	Ile	Ser	Gly
225				230						235					240
Ile	Lys	Asp	Phe	Leu	Pro	Val	Leu	Gln	Gln	Val	Ala	Glu	Ser	Gly	Arg
			245						250					255	
Pro	Leu	Leu	Ile	Ile	Ala	Glu	Glu	Ile	Glu	Gly	Glu	Ala	Leu	Ala	Thr
			260					265					270		
Leu	Val	Val	Asn	Arg	Leu	Arg	Ala	Gly	Phe	Arg	Val	Cys	Ala	Val	Lys
		275					280					285			
Ala	Pro	Gly	Phe	Gly	Asp	Arg	Arg	Lys	Ala	Met	Leu	Glu	Asp	Ile	Ala
		290				295					300				
Ile	Leu	Thr	Gly	Gly	Gln	Leu	Val	Ser	Glu	Glu	Leu	Gly	Met	Lys	Leu
305					310					315				320	
Glu	Asn	Thr	Thr	Leu	Ala	Met	Leu	Gly	Lys	Ala	Lys	Lys	Val	Ile	Val
			325						330					335	
Thr	Lys	Glu	Asp	Thr	Thr	Ile	Val	Glu	Gly	Leu	Gly	Asn	Lys	Pro	Asp
			340					345					350		
Ile	Gln	Ala	Arg	Cys	Asp	Asn	Ile	Lys	Lys	Gln	Ile	Glu	Asp	Ser	Thr
		355				360						365			
Ser	Asp	Tyr	Asp	Lys	Glu	Lys	Leu	Gln	Glu	Arg	Leu	Ala	Lys	Leu	Ser
		370				375					380				
Gly	Gly	Val	Ala	Val	Ile	Arg	Val	Gly	Ala	Ala	Thr	Glu	Ile	Glu	Met
385				390						395				400	
Lys	Glu	Lys	Lys	Asp	Arg	Val	Asp	Asp	Ala	Gln	His	Ala	Thr	Ile	Ala
			405						410					415	
Ala	Val	Glu	Glu	Gly	Ile	Leu	Pro	Gly	Gly	Gly	Thr	Ala	Leu	Val	Arg
			420					425					430		
Cys	Ile	Pro	Thr	Leu	Glu	Ala	Phe	Leu	Pro	Met	Leu	Ala	Asn	Glu	Asp
		435					440					445			
Glu	Ala	Ile	Gly	Thr	Arg	Ile	Ile	Leu	Lys	Ala	Leu	Thr	Ala	Pro	Leu
		450				455					460				
Lys	Gln	Ile	Ala	Ser	Asn	Ala	Gly	Lys	Glu	Gly	Ala	Ile	Ile	Cys	Gln
465				470						475				480	
Gln	Val	Leu	Ala	Arg	Ser	Ala	Asn	Glu	Gly	Tyr	Asp	Ala	Leu	Arg	Asp
			485						490					495	
Ala	Tyr	Thr	Asp	Met	Ile	Asp	Ala	Gly	Ile	Leu	Asp	Pro	Thr	Lys	Val
			500					505					510		
Thr	Arg	Ser	Ala	Leu	Glu	Ser	Ala	Ala	Ser	Ile	Ala	Gly	Leu	Leu	Leu
		515					520					525			

Thr Thr Glu Ala Leu Ile Ala Asp Ile Pro Glu Glu Lys Ser Ser Ser  
530 535 540  
Ala Pro Ala Met Pro Ser Ala Gly Met Asp Tyr  
545 550 555

<210> 137  
<211> 102  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 137  
Met Ser Asp Gln Ala Thr Thr Leu Arg Ile Lys Pro Leu Gly Asp Arg  
1 5 10 15  
Ile Leu Val Lys Arg Glu Glu Glu Glu Ala Thr Ala Arg Gly Gly Ile  
20 25 30  
Ile Leu Pro Asp Thr Ala Lys Lys Lys Gln Asp Arg Ala Glu Val Leu  
35 40 45  
Val Leu Gly Thr Gly Lys Arg Thr Asp Asp Gly Thr Leu Leu Pro Phe  
50 55 60  
Glu Val Gln Val Gly Asp Ile Ile Leu Met Asp Lys Tyr Ala Gly Gln  
65 70 75 80  
Glu Ile Thr Ile Asp Asp Glu Glu Tyr Val Ile Leu Gln Ser Ser Glu  
85 90 95  
Ile Met Ala Val Leu Lys  
100

<210> 138  
<211> 617  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 138  
Lys Gly Val Pro Ser Leu Met Thr Thr Glu Leu Lys Thr Glu Ala Leu  
1 5 10 15  
Pro Thr Arg Thr Gln Val Asp Pro Lys His Cys Trp Asp Thr Thr Leu  
20 25 30  
Met Tyr Ala Asn Arg Glu Glu Trp Lys Lys Asp Phe Asp Leu Cys Ser  
35 40 45  
Ser Gly Lys Asp Arg Ser Pro Ile Trp Pro Glu Phe Ser Pro Ser His  
50 55 60  
Tyr Gln Ile Asp Asn Pro Glu Ser Leu Leu Glu Leu Leu Ser Lys Lys  
65 70 75 80  
Phe Ser Val Glu Arg Lys Leu Asp Gln Leu Tyr Ile Tyr Ala His Leu  
85 90 95  
Ile His Asp Gln Asp Ile Thr Asn Pro Glu Gly Glu Ser Asp Tyr Gln  
100 105 110  
Ser Ile Val Tyr Leu Tyr Thr Leu Phe Ser Gln Glu Ile Ser Trp Ile  
115 120 125  
Gln Pro Ala Leu Ile Ala Leu Ser Glu Glu Lys Val Ala Ala Leu Leu  
130 135 140  
Ser Ser Ser Val Leu Ala Pro Tyr Arg Phe Tyr Leu Glu Lys Ile Phe  
145 150 155 160  
Arg Leu Ser Pro His Thr Gly Thr Ala Asn Glu Glu Lys Ile Leu Ala  
165 170 175  
Ser Ser Phe Ala Ala Leu Asn Val Ser Asn Lys Ala Phe Ser Ser Leu  
180 185 190  
Ser Asp Ala Glu Ile Pro Phe Gly Ile Ala Lys Asp Ser Asn Gly Glu  
195 200 205  
Glu His Pro Leu Ser His Ala Leu Ala Ser Leu Tyr Met Gln Ser Pro  
210 215 220

Asp	Gln	Glu	Leu	Arg	Arg	Thr	Ala	Tyr	Leu	Ala	Gln	Phe	Gln	Arg	Tyr
225					230					235					240
Tyr	Asp	Tyr	Arg	Asn	Thr	Phe	Ala	Asn	Leu	Leu	Asn	Gly	Lys	Val	Gln
				245					250					255	
Ala	His	Leu	Phe	Glu	Ala	Lys	Ala	Arg	Asn	Tyr	Pro	Ser	Cys	Leu	Glu
			260					265					270		
Ala	Ser	Leu	Phe	Gln	His	Asn	Ile	Pro	Thr	Thr	Val	Tyr	Ile	Asn	Leu
		275					280					285			
Ile	Asn	Glu	Thr	Lys	Lys	His	Thr	Ser	Leu	Ile	Asn	Arg	Tyr	Phe	Asn
	290					295					300				
Leu	Lys	Lys	Glu	Ala	Leu	Asn	Leu	Lys	Glu	Phe	His	Phe	Tyr	Asp	Val
305					310					315					320
Tyr	Ala	Pro	Ile	Ser	Gln	Thr	Thr	Ser	Lys	Asn	Tyr	Ser	Tyr	Glu	Glu
				325					330					335	
Gly	Val	Asp	Leu	Val	Cys	Lys	Ser	Leu	Leu	Pro	Leu	Gly	Thr	His	Tyr
		340						345					350		
Val	Glu	Ile	Leu	Arg	Asn	Gly	Leu	Leu	Ser	Asn	Arg	Trp	Val	Asp	Arg
		355				360						365			
Tyr	Glu	Asn	Lys	His	Lys	Arg	Ser	Gly	Ala	Tyr	Ser	Ser	Gly	Cys	Tyr
	370					375					380				
Asp	Ser	Ala	Pro	Tyr	Ile	Leu	Leu	Asn	Tyr	Thr	Asn	Thr	Leu	Tyr	Asp
385					390					395					400
Val	Ser	Val	Ile	Ala	His	Glu	Ala	Gly	His	Ser	Met	His	Ser	Tyr	Phe
			405						410					415	
Ser	Arg	Glu	Ala	Gln	Pro	Tyr	His	Asp	Ala	Gln	Tyr	Pro	Leu	Phe	Leu
			420					425					430		
Ala	Glu	Ile	Ala	Ser	Thr	Phe	Asn	Glu	Met	Leu	Leu	Met	Glu	Ala	Leu
		435					440					445			
Ser	Lys	Ser	Asp	Gln	Ser	Lys	Glu	Asp	Lys	Ile	Val	Ile	Ile	Thr	Lys
	450					455					460				
Thr	Leu	Asp	Thr	Ile	Phe	Ala	Thr	Leu	Phe	Arg	Gln	Thr	Phe	Phe	Ala
465					470					475					480
Ala	Phe	Glu	Tyr	Glu	Ile	His	Ser	Ala	Ala	Glu	Gln	Gly	Thr	Pro	Leu
				485					490					495	
Thr	Glu	Glu	Phe	Leu	Ser	Ala	Thr	Tyr	Gly	Asn	Leu	Gln	Lys	Glu	Phe
			500					505					510		
Tyr	Gly	Gly	Val	Val	Thr	Ser	Asp	Ser	Leu	Ser	Ala	Leu	Glu	Trp	Ala
		515					520					525			
Arg	Ile	Pro	His	Phe	Tyr	Tyr	Asn	Phe	Tyr	Val	Tyr	Gln	Tyr	Ala	Thr
	530					535					540				
Gly	Ile	Ile	Ala	Ala	Leu	Ser	Phe	Ala	Glu	Lys	Ile	Leu	Thr	Gln	Glu
545					550					555					560
Pro	Gly	Ala	Leu	Glu	Leu	Tyr	Leu	Lys	Phe	Leu	Lys	Ser	Gly	Arg	Ser
				565					570					575	
Asp	Phe	Pro	Leu	Asn	Ile	Leu	Lys	Lys	Ser	Gly	Leu	Asp	Met	Thr	Thr
			580					585					590		
Ser	Ala	Pro	Leu	Asp	Lys	Ala	Phe	Ala	Phe	Ile	Thr	Lys	Lys	Ile	Asp
		595				600						605			
Leu	Leu	Ser	Ser	Leu	Leu	Ser	Glu	Asp							
	610					615									

<210> 139

<211> 254

<212> PRT

<213> Chlamydia pneumoniae

<400> 139

Val	Cys	Ser	Met	Asn	Val	Ala	Asp	Leu	Leu	Ser	His	Leu	Glu	Thr	Leu
1				5				10					15		
Leu	Ser	Ser	Lys	Ile	Phe	Gln	Asp	Tyr	Gly	Pro	Asn	Gly	Leu	Gln	Val
			20					25					30		

Gly	Asp	Pro	Gln	Thr	Pro	Val	Lys	Lys	Ile	Ala	Val	Ala	Val	Thr	Ala
		35					40					45			
Asp	Leu	Glu	Thr	Ile	Lys	Gln	Ala	Val	Ala	Ala	Glu	Ala	Asn	Val	Leu
	50					55					60				
Ile	Val	His	His	Gly	Ile	Phe	Trp	Lys	Gly	Met	Pro	Tyr	Pro	Ile	Thr
65					70					75					80
Gly	Met	Ile	His	Lys	Arg	Ile	Gln	Leu	Leu	Ile	Glu	His	Asn	Ile	Gln
				85					90					95	
Leu	Ile	Ala	Tyr	His	Leu	Pro	Leu	Asp	Ala	His	Pro	Thr	Leu	Gly	Asn
			100					105					110		
Asn	Trp	Arg	Val	Ala	Leu	Asp	Leu	Asn	Trp	His	Asp	Leu	Lys	Pro	Phe
		115					120					125			
Gly	Ser	Ser	Leu	Pro	Tyr	Leu	Gly	Val	Gln	Gly	Ser	Phe	Ser	Pro	Ile
	130					135					140				
Asp	Ile	Asp	Ser	Phe	Ile	Asp	Leu	Leu	Ser	Gln	Tyr	Tyr	Gln	Ala	Pro
145					150					155					160
Leu	Lys	Gly	Ser	Ala	Leu	Gly	Gly	Pro	Ser	Arg	Val	Ser	Ser	Ala	Ala
				165					170					175	
Leu	Ile	Ser	Gly	Gly	Ala	Tyr	Arg	Glu	Leu	Ser	Ser	Ala	Ala	Thr	Ser
			180					185					190		
Gln	Val	Asp	Cys	Phe	Ile	Thr	Gly	Asn	Phe	Asp	Glu	Pro	Ala	Trp	Ser
		195					200					205			
Thr	Ala	Leu	Glu	Ser	Asn	Ile	Asn	Phe	Leu	Ala	Phe	Gly	His	Thr	Ala
	210					215					220				
Thr	Glu	Lys	Val	Gly	Pro	Lys	Ser	Leu	Ala	Glu	His	Leu	Lys	Ser	Glu
225					230					235					240
Phe	Pro	Ile	Ser	Thr	Thr	Phe	Ile	Asp	Thr	Ala	Asn	Pro	Phe		
				245					250						

<210> 140

<211> 465

<212> PRT

<213> Chlamydia pneumoniae

<400> 140

Thr	Asn	Ser	Arg	Leu	Phe	Leu	Ala	Ile	Lys	Asp	Gln	Leu	Leu	Gln	Asn
1				5					10					15	
Met	Trp	Lys	Leu	Thr	Lys	Arg	Asn	Ser	Met	Leu	Asn	Cys	Ser	Asn	Gln
			20					25					30		
Lys	His	Thr	Val	Thr	Phe	Glu	Glu	Ala	Cys	Gln	Val	Phe	Pro	Gly	Gly
		35					40					45			
Val	Asn	Ser	Pro	Val	Arg	Ala	Cys	Arg	Ser	Val	Gly	Val	Thr	Pro	Pro
	50					55				60					
Ile	Val	Ser	Ser	Ala	Gln	Gly	Asp	Ile	Phe	Leu	Asp	Thr	His	Gly	Arg
65					70					75					80
Glu	Phe	Ile	Asp	Phe	Cys	Gly	Gly	Trp	Gly	Ala	Leu	Ile	His	Gly	His
				85					90					95	
Ser	His	Pro	Lys	Ile	Val	Lys	Ala	Ile	Gln	Lys	Thr	Ala	Leu	Lys	Gly
			100					105					110		
Thr	Ser	Tyr	Gly	Leu	Thr	Ser	Glu	Glu	Ile	Leu	Phe	Ala	Thr	Met	
		115					120					125			
Leu	Leu	Ser	Ser	Leu	Lys	Leu	Lys	Glu	His	Lys	Ile	Arg	Phe	Val	Ser
	130					135					140				
Ser	Gly	Thr	Glu	Ala	Thr	Met	Thr	Ala	Val	Arg	Leu	Ala	Arg	Gly	Ile
145					150					155					160
Thr	Asn	Arg	Ser	Ile	Ile	Ile	Lys	Phe	Ile	Gly	Gly	Tyr	His	Gly	His
				165					170					175	
Ala	Asp	Thr	Leu	Gly	Gly	Ile	Ser	Thr	Thr	Glu	Glu	Thr	Ile	Asp	
			180					185					190		
Asn	Leu	Thr	Ser	Leu	Ile	His	Thr	Pro	Ser	Pro	His	Ser	Leu	Leu	Ile
		195					200					205			

Ser Leu Pro Tyr Asn Asn Ser Gln Ile Leu His His Val Met Glu Ala  
 210 215 220  
 Leu Gly Pro Gln Val Ala Gly Ile Ile Phe Glu Pro Ile Cys Ala Asn  
 225 230 235 240  
 Met Gly Ile Val Leu Pro Lys Ala Glu Phe Leu Asp Asp Ile Ile Glu  
 245 250 255  
 Leu Cys Lys Arg Phe Gly Ser Leu Ser Ile Met Asp Glu Val Val Thr  
 260 265 270  
 Gly Phe Arg Val Ala Phe Gln Gly Ala Gln Asp Ile Phe Asn Leu Ser  
 275 280 285  
 Pro Asp Ile Thr Ile Tyr Gly Lys Ile Leu Gly Gly Gly Leu Pro Ala  
 290 295 300  
 Ala Ala Leu Val Gly His Arg Ser Ile Leu Asp His Leu Met Pro Glu  
 305 310 315 320  
 Gly Thr Ile Phe Gln Ala Gly Thr Met Ser Gly Asn Phe Leu Ala Met  
 325 330 335  
 Ala Thr Gly His Ala Ala Ile Gln Leu Cys Gln Ser Glu Gly Phe Tyr  
 340 345 350  
 Asp His Leu Ser Gln Leu Glu Ala Leu Phe Tyr Ser Pro Ile Glu Glu  
 355 360 365  
 Glu Ile Arg Ser Gln Gly Phe Pro Val Ser Leu Val His Gln Gly Thr  
 370 375 380  
 Met Phe Ser Leu Phe Phe Thr Glu Ser Ala Pro Thr Asn Phe Asp Glu  
 385 390 395 400  
 Ala Lys Asn Ser Asp Val Glu Lys Phe Gln Thr Phe Tyr Ser Glu Val  
 405 410 415  
 Phe Asp Asn Gly Val Tyr Leu Ser Pro Ser Pro Leu Glu Ala Asn Phe  
 420 425 430  
 Ile Ser Ser Ala His Thr Glu Glu Asn Leu Thr Tyr Ala Gln Asn Ile  
 435 440 445  
 Ile Ile Asp Ser Leu Ile Lys Ile Phe Asp Ser Ser Ala Gln Arg Phe  
 450 455 460  
 Phe  
 465

<210> 141  
 <211> 198  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 141  
 Ser Pro Thr Lys Asn Lys Leu Arg Asp Ile Met Lys Ile Pro Tyr Ala  
 1 5 10 15  
 Arg Leu Glu Lys Gly Ser Leu Leu Val Ala Ser Pro Asp Ile Asn Gln  
 20 25 30  
 Gly Val Phe Ala Arg Ser Val Ile Leu Leu Cys Glu His Ser Leu Asn  
 35 40 45  
 Gly Ser Phe Gly Leu Ile Leu Asn Lys Thr Leu Gly Phe Glu Ile Ser  
 50 55 60  
 Asp Asp Ile Phe Thr Phe Glu Lys Val Ser Asn His Asn Ile Arg Phe  
 65 70 75 80  
 Cys Met Gly Gly Pro Leu Gln Ala Asn Gln Met Met Leu Leu His Ser  
 85 90 95  
 Cys Ser Glu Ile Pro Glu Gln Thr Leu Glu Ile Cys Pro Ser Val Tyr  
 100 105 110  
 Leu Gly Gly Asp Leu Pro Phe Leu Gln Glu Ile Ala Ser Ser Glu Ser  
 115 120 125  
 Gly Pro Glu Ile Asn Leu Cys Phe Gly Tyr Ser Gly Trp Gln Ala Gly  
 130 135 140  
 Gln Leu Glu Lys Glu Phe Leu Ser Asn Asp Trp Phe Leu Ala Pro Gly  
 145 150 155 160

Asn Lys Asp Tyr Val Phe Tyr Ser Glu Pro Glu Asp Leu Trp Ala Leu  
165 170 175  
Val Leu Lys Asp Leu Gly Gly Lys Tyr Ala Ser Leu Ser Thr Val Pro  
180 185 190  
Asp Asn Leu Leu Leu Asn  
195

<210> 142  
<211> 156  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 142  
Pro Arg Ser Asn Gln Gln Lys Ile Phe Cys Met Ser Leu Glu Lys Glu  
1 5 10 15  
Leu Leu Glu Glu Thr Pro Leu Val Leu Leu Asn Phe Tyr Lys Leu Val  
20 25 30  
Ser Phe Cys Asn Tyr Ala Gly Met Ile Leu Gly Thr Glu Glu Lys Lys  
35 40 45  
Phe Ala Ile Tyr Gly His Val Ser Met Gly Gln Ala Phe Gln Gly Ala  
50 55 60  
Asp Thr Glu Gly His Ser Pro Gln Arg Pro Phe Ala His Asp Leu Leu  
65 70 75 80  
Asn Phe Val Phe Ser Gly Phe Asp Ile Gln Val Leu Arg Val Val Ile  
85 90 95  
Asn Asp Tyr Lys Asp Asn Val Phe Tyr Thr Arg Leu Phe Leu Glu Gln  
100 105 110  
Lys Asp Arg Glu Phe Leu Tyr Val Asp Val Asp Ala Arg Pro Ser  
115 120 125  
Asp Ser Ile Pro Leu Ala Leu Thr His Lys Ile Pro Ile Leu Cys Val  
130 135 140  
Lys Ser Val Phe Asp Ala Val Val Pro Tyr Glu Glu  
145 150 155

<210> 143  
<211> 236  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 143  
His Ser Ser Ser Ala Val Glu Lys Asp Leu His Leu His Glu Lys Lys  
1 5 10 15  
Cys Leu Ala His Glu Ala Ala Thr Gln Val Thr Ser Gly Met Ile Leu  
20 25 30  
Gly Leu Gly Ser Gly Ser Thr Ala Lys Glu Phe Ile Phe Ala Leu Ala  
35 40 45  
His Arg Ile Gln Thr Glu Ser Leu Ala Val His Ala Ile Ala Ser Ser  
50 55 60  
Gln Asn Ser Tyr Ala Leu Ala Lys Gln Leu Ala Ile Pro Leu Leu Asn  
65 70 75 80  
Pro Glu Lys Phe Ser Ser Leu Asp Leu Thr Val Asp Gly Ala Asp Glu  
85 90 95  
Val Asp Pro Gln Leu Arg Met Ile Lys Gly Gly Gly Gly Ala Ile Phe  
100 105 110  
Arg Glu Lys Ile Leu Leu Arg Ala Ala Lys Arg Ser Ile Ile Leu Val  
115 120 125  
Asp Glu Ser Lys Leu Val Pro Val Leu Gly Lys Phe Arg Val Pro Leu  
130 135 140  
Glu Ile Ser Arg Phe Gly Arg Ser Ala Ile Ile Glu Glu Ile Arg His  
145 150 155 160





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Asp Ile Val Ala Gly Tyr Arg Lys Val Ile Arg Asp Leu Tyr Asp Ala
      180                      185                      190
Gly Cys Arg Tyr Leu Gln Leu Asp Asp Cys Thr Arg Gly Gly Leu Val
      195                      200                      205
Asp Pro Arg Val Cys Ser Trp Tyr Gly Ile Asp Glu Lys Gly Leu Gln
      210                      215                      220
Asp Leu Ile Gln Gln Tyr Leu Leu Ile Asn Asn Leu Val Ile Ala Asp
      225                      230                      235                      240
Arg Pro Asp Asp Leu Val Val Asn Leu His Val Cys Arg Gly Asn Tyr
      245                      250                      255
His Ser Lys Phe Phe Ala Ser Gly Ser Tyr Asp Phe Ile Ala Lys Pro
      260                      265                      270
Leu Phe Glu Gln Thr Asn Val Asp Gly Tyr Tyr Leu Glu Phe Asp His
      275                      280                      285
Glu Arg Ser Gly Asp Phe Ser Pro Leu Thr Phe Ile Ser Gly Glu Lys
      290                      295                      300
Thr Val Cys Leu Gly Leu Val Thr Ser Lys Thr Pro Thr Leu Glu Asn
      305                      310                      315                      320
Lys Asp Glu Val Ile Ala Arg Ile His Gln Ala Ala Asp Tyr Leu Pro
      325                      330                      335
Leu Glu Arg Leu Ser Leu Ser Pro Gln Cys Gly Phe Ala Ser Cys Glu
      340                      345                      350
Ile Gly Asn Lys Leu Thr Glu Glu Glu Gln Trp Ala Lys Val Ala Leu
      355                      360                      365
Val Lys Glu Ile Ser Glu Glu Val Trp Lys
      370                      375

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<210> 146

<211> 873

<212> PRT

<213> Chlamydia pneumoniae

<400> 146

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Lys Val Leu Gly Val Asn Phe Met Glu Lys Phe Ser Asp Ala Val Ser
  1           5           10           15
Glu Ala Leu Glu Lys Ala Phe Glu Leu Ala Lys Ser Ser Lys His Thr
      20           25           30
Tyr Val Thr Glu Asn His Leu Leu Ala Leu Leu Glu Asn Thr Glu
      35           40           45
Ser Leu Phe Tyr Leu Val Ile Lys Asp Ile His Gly Asn Pro Gly Leu
      50           55           60
Leu Asn Thr Ala Val Lys Asp Ala Leu Ser Arg Glu Pro Thr Val Val
      65           70           75           80
Glu Gly Glu Val Asp Pro Lys Pro Ser Pro Gly Leu Gln Thr Leu Leu
      85           90           95
Arg Asp Ala Lys Gln Glu Ala Lys Thr Leu Gly Asp Glu Tyr Ile Ser
      100          105          110
Gly Asp His Leu Leu Leu Ala Phe Trp Ser Ser Asn Lys Glu Pro Phe
      115          120          125
Asn Ser Trp Lys Lys Gln Thr Thr Lys Val Ser Phe Lys Asp Leu Lys Asn
      130          135          140
Leu Ile Thr Lys Ile Arg Arg Gly Asn Arg Met Asp Ser Pro Ser Ala
      145          150          155          160
Glu Ser Asn Phe Gln Gly Leu Glu Lys Tyr Cys Lys Asn Leu Thr Ala
      165          170          175
Leu Ala Arg Glu Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu
      180          185          190
Ile Arg Arg Thr Ile Gln Val Leu Ser Arg Arg Thr Lys Asn Asn Pro
      195          200          205
Met Leu Ile Gly Glu Pro Gly Val Gly Lys Thr Ala Ile Ala Glu Gly
      210          215          220

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Leu	Ala	Leu	Arg	Leu	Ile	Gln	Gly	Asp	Val	Pro	Glu	Ser	Leu	Lys	Gly
225					230					235					240
Lys	Gln	Leu	Tyr	Val	Leu	Asp	Met	Gly	Ala	Leu	Ile	Ala	Gly	Ala	Lys
				245						250					255
Tyr	Arg	Gly	Glu	Phe	Glu	Glu	Arg	Leu	Lys	Ser	Val	Leu	Lys	Asp	Val
			260					265						270	
Glu	Ser	Gly	Asp	Gly	Glu	His	Ile	Ile	Phe	Ile	Asp	Glu	Val	His	Thr
		275					280					285			
Leu	Val	Gly	Ala	Gly	Ala	Thr	Asp	Gly	Ala	Met	Asp	Ala	Ala	Asn	Leu
	290					295					300				
Leu	Lys	Pro	Ala	Leu	Ala	Arg	Gly	Thr	Leu	His	Cys	Ile	Gly	Ala	Thr
305					310					315					320
Thr	Leu	Asn	Glu	Tyr	Gln	Lys	Tyr	Ile	Glu	Lys	Asp	Ala	Ala	Leu	Glu
				325						330					335
Arg	Arg	Phe	Gln	Pro	Ile	Phe	Val	Thr	Glu	Pro	Ser	Leu	Glu	Asp	Ala
			340					345					350		
Val	Phe	Ile	Leu	Arg	Gly	Leu	Arg	Glu	Lys	Tyr	Glu	Ile	Phe	His	Gly
		355					360					365			
Val	Arg	Ile	Thr	Glu	Gly	Ala	Leu	Asn	Ala	Ala	Val	Leu	Leu	Ser	Tyr
	370					375					380				
Arg	Tyr	Ile	Pro	Asp	Arg	Phe	Leu	Pro	Asp	Lys	Ala	Ile	Asp	Leu	Ile
385					390					395					400
Asp	Glu	Ala	Ala	Ser	Leu	Ile	Arg	Met	Gln	Ile	Gly	Ser	Leu	Pro	Leu
				405					410					415	
Pro	Ile	Asp	Glu	Lys	Glu	Arg	Glu	Leu	Ala	Ala	Leu	Ile	Val	Lys	Gln
			420					425					430		
Glu	Ala	Ile	Lys	Arg	Glu	Gln	Ser	Pro	Ser	Tyr	Gln	Glu	Glu	Ala	Asp
		435					440					445			
Ala	Met	Gln	Lys	Ser	Ile	Asp	Ala	Leu	Arg	Glu	Glu	Leu	Ala	Ser	Leu
	450					455					460				
Arg	Leu	Gly	Trp	Asp	Glu	Glu	Lys	Lys	Leu	Ile	Ser	Gly	Leu	Lys	Glu
465					470					475					480
Lys	Lys	Asn	Ser	Leu	Glu	Ser	Met	Lys	Phe	Ser	Glu	Glu	Glu	Ala	Glu
				485					490					495	
Arg	Val	Ala	Asp	Tyr	Asn	Arg	Val	Ala	Glu	Leu	Arg	Tyr	Ser	Leu	Ile
			500					505					510		
Pro	Gln	Leu	Glu	Glu	Glu	Ile	Lys	Gln	Asp	Glu	Ala	Ser	Leu	Asn	Gln
		515					520					525			
Arg	Asp	Asn	Arg	Leu	Leu	Gln	Glu	Glu	Val	Asp	Glu	Arg	Leu	Ile	Ala
	530					535					540				
Gln	Val	Val	Ala	Asn	Trp	Thr	Gly	Ile	Pro	Val	Gln	Lys	Met	Leu	Glu
545					550					555					560
Gly	Glu	Ala	Glu	Lys	Leu	Leu	Ile	Leu	Glu	Glu	Ser	Leu	Glu	Glu	Arg
				565					570					575	
Val	Val	Gly	Gln	Pro	Phe	Ala	Val	Ser	Ala	Val	Ser	Asp	Ser	Ile	Arg
			580					585					590		
Ala	Ala	Arg	Val	Gly	Leu	Asn	Asp	Pro	Gln	Arg	Pro	Leu	Gly	Val	Phe
		595					600					605			
Leu	Phe	Leu	Gly	Pro	Thr	Gly	Val	Gly	Lys	Thr	Glu	Leu	Ala	Lys	Ala
	610					615					620				
Leu	Ala	Asp	Leu	Leu	Phe	Asn	Lys	Glu	Glu	Ala	Met	Val	Arg	Phe	Asp
625					630					635					640
Met	Ser	Glu	Tyr	Met	Glu	Lys	His	Ser	Ile	Ser	Lys	Leu	Ile	Gly	Ser
				645					650					655	
Ser	Pro	Gly	Tyr	Val	Gly	Tyr	Glu	Glu	Gly	Gly	Ser	Leu	Ser	Glu	Ala
			660					665					670		
Leu	Arg	Arg	Arg	Pro	Tyr	Ser	Val	Val	Leu	Phe	Asp	Glu	Ile	Glu	Lys
		675					680					685			
Ala	Asp	Lys	Glu	Val	Leu	Asn	Ile	Leu	Leu	Gln	Val	Phe	Asp	Asp	Gly
690						695					700				

Ile	Leu	Thr	Asp	Gly	Lys	Lys	Arg	Lys	Val	Asn	Cys	Lys	Asn	Ala	Leu
705					710					715					720
Phe	Ile	Met	Thr	Ser	Asn	Ile	Gly	Ser	Pro	Glu	Leu	Ala	Asp	Tyr	Cys
				725					730					735	
Ser	Lys	Lys	Gly	Ser	Glu	Leu	Thr	Lys	Glu	Ala	Ile	Leu	Ser	Val	Val
			740					745					750		
Ser	Pro	Val	Leu	Lys	Arg	Tyr	Leu	Ser	Pro	Glu	Phe	Met	Asn	Arg	Ile
		755					760					765			
Asp	Glu	Ile	Leu	Pro	Phe	Val	Pro	Leu	Thr	Lys	Glu	Asp	Ile	Val	Lys
	770					775					780				
Ile	Val	Gly	Ile	Gln	Met	Arg	Arg	Ile	Ala	Gln	Arg	Leu	Lys	Ala	Arg
785					790					795					800
Arg	Ile	Asn	Leu	Ser	Trp	Asp	Asp	Ser	Val	Ile	Leu	Phe	Leu	Ser	Glu
				805					810					815	
Gln	Gly	Tyr	Asp	Ser	Ala	Phe	Gly	Ala	Arg	Pro	Leu	Lys	Arg	Leu	Ile
			820					825					830		
Gln	Gln	Lys	Val	Val	Ile	Leu	Leu	Ser	Lys	Ala	Leu	Leu	Lys	Gly	Asp
		835					840					845			
Ile	Lys	Pro	Asp	Thr	Ser	Ile	Glu	Leu	Thr	Met	Ala	Lys	Glu	Val	Leu
	850					855					860				
Val	Phe	Lys	Lys	Val	Glu	Thr	Pro	Ser							
865					870										

<210> 147

<211> 551

<212> PRT

<213> Chlamydia pneumoniae

<400> 147

Asn	Cys	Ala	Ala	Ser	Phe	Ile	Trp	Leu	Asn	Lys	Ser	Ser	His	Arg	Asn
1				5					10					15	
Leu	Arg	Ser	Pro	Met	Phe	Lys	Ser	Phe	Ile	Val	Arg	Tyr	Met	Phe	Val
			20					25					30		
Gly	Gly	Leu	Val	Ser	Phe	Leu	Leu	Pro	Ile	Pro	Asp	Leu	Glu	Cys	Ala
		35					40					45			
Asn	Asn	Val	Thr	Lys	Thr	Tyr	Asp	Lys	Lys	Ala	Ser	Val	Ile	Ser	Arg
	50					55					60				
Asp	Leu	Lys	Leu	Gln	Glu	Asp	Cys	Gln	Lys	Phe	Trp	Asn	Leu	Asp	Pro
65					70					75					80
Tyr	Lys	Leu	Glu	Ser	Leu	Cys	Ala	Tyr	Gln	Val	Leu	Tyr	His	Asp	Asp
				85					90					95	
Tyr	Ser	Ser	Lys	Arg	Ile	Arg	Glu	Leu	Phe	Pro	Gln	Ile	Gln	Lys	Asp
			100					105					110		
Glu	Val	Pro	Ile	Phe	Ala	Thr	Met	Ile	Leu	Thr	Leu	Gly	Lys	Val	Asp
		115					120					125			
Arg	Gly	Phe	Ser	Pro	Glu	Glu	Ile	Ser	Leu	Ile	Gln	Lys	Leu	Ser	Tyr
	130					135					140				
Pro	Gly	Leu	Ser	Leu	Ala	Ser	Leu	Arg	Gly	Ser	Thr	Glu	Ile	Asp	Pro
145				150						155					160
Asn	Thr	Asp	Leu	Ala	Arg	Ala	Leu	Val	Val	Ser	Glu	Phe	Ser	Gly	Asp
				165					170					175	
Leu	Gly	Lys	Asn	Arg	Ala	Asp	Tyr	Tyr	Ser	Asn	Cys	Leu	Asp	Ile	Leu
			180					185					190		
Ala	Leu	Arg	Ile	His	Ala	Glu	Arg	Gln	Arg	Tyr	Leu	Asp	Gln	Ser	Pro
		195					200					205			
Cys	Val	Pro	Gly	Thr	Ser	Glu	Phe	His	Lys	Ala	Thr	Ile	Glu	Ala	Ile
	210					215					220				
Asn	Thr	Ile	Leu	Phe	Tyr	Glu	Glu	Ala	Val	Arg	Tyr	Pro	Ser	Lys	Lys
225					230					235					240
Glu	Met	Phe	Ser	Asp	Glu	Phe	Ser	Phe	Leu	Ser	Ser	Val	Thr	Asp	Arg
				245					250					255	

Lys Phe Gly Val Cys Leu Gly Val Ser Ser Leu Tyr Phe Ser Leu Ser  
 260 265 270  
 Gln Arg Leu Asp Leu Pro Leu Glu Ala Val Thr Pro Pro Gly His Ile  
 275 280 285  
 Tyr Leu Arg Tyr Gln Gly Gly Glu Val Asn Ile Glu Thr Thr Ala Gly  
 290 295 300  
 Gly Arg His Leu Pro Thr Ala Ser Tyr Cys Asp Cys Leu Asp Leu Glu  
 305 310 315 320  
 Asp Leu Gln Val Arg Thr Pro Glu Glu Met Ile Gly Leu Thr Phe Met  
 325 330 335  
 Asn Gln Gly Ser Phe Ala Leu Gln Lys Lys Lys Tyr Lys Glu Ala Glu  
 340 345 350  
 Glu Ala Tyr Lys Lys Ala Gln Glu Tyr Leu Gly Asp Glu Glu Leu Gln  
 355 360 365  
 Glu Leu Leu Gly Phe Val Gln Ile Leu Gly Gly Lys Lys Lys Glu Gly  
 370 375 380  
 Lys Ser Leu Ile Gly Lys Ser Pro Arg Ala Ser Gln Lys Gly Ser Val  
 385 390 395 400  
 Ala Tyr Asp Tyr Leu Lys Gly Arg Ile Asn Ile Pro Thr Leu Ala Leu  
 405 410 415  
 Leu Phe Ser Tyr Pro Gly Ser Asn Tyr Glu Glu Ile Ala Ser Tyr Glu  
 420 425 430  
 Glu Glu Leu Lys Lys Ala Met Lys Ser Ser Met Pro Cys Cys Glu Gly  
 435 440 445  
 Gln Arg Arg Leu Ala Ser Val Ala Phe His Leu Gly Lys Thr Ala Glu  
 450 455 460  
 Ala Val Ala Leu Leu Glu Lys Cys Val Glu Asp Ile Pro Asn Asp Leu  
 465 470 475 480  
 Ser Leu His Leu Arg Leu Cys Lys Ile Leu Cys Asp Arg His Glu Tyr  
 485 490 495  
 Thr Lys Ala Leu Lys Tyr Phe Ile Ile Ala Glu Arg Leu Met Glu Asp  
 500 505 510  
 Gln Gly Phe Leu Lys Lys Asp Asn Arg Ser Phe Ala Leu Phe Tyr Glu  
 515 520 525  
 Val Lys Lys Ile Ile Ser Lys Val Ala Pro Gln Lys Ala Asn Thr Leu  
 530 535 540  
 Leu Leu Met Glu Ser Glu Arg  
 545 550

<210> 148

<211> 167

<212> PRT

<213> Chlamydia pneumoniae

<400> 148

Ile Ile Val Gly Ile Ser Met Ser Ser Ser Glu Val Val Phe Gln Thr  
 1 5 10 15  
 Val His Gly Leu Gly Phe Gly Gly Leu Ser Ser Lys Ser Val Val Pro  
 20 25 30  
 Phe Lys Lys Ser Leu Ser Asp Ala Pro Arg Val Val Cys Ser Ile Leu  
 35 40 45  
 Val Leu Thr Leu Gly Leu Gly Ala Leu Val Cys Gly Ile Ala Ile Thr  
 50 55 60  
 Cys Trp Cys Val Pro Gly Val Ile Leu Met Gly Gly Ile Cys Ala Ile  
 65 70 75 80  
 Val Leu Gly Ala Ile Ser Leu Ala Leu Ser Leu Phe Trp Leu Trp Gly  
 85 90 95  
 Leu Phe Ser Asn Cys Cys Gly Ser Lys Arg Val Leu Pro Gly Glu Gly  
 100 105 110  
 Leu Leu Arg Asp Lys Leu Leu Asp Gly Gly Phe Ser Arg Ala Ala Pro  
 115 120 125

Ser Gly Met Gly Leu Pro Gly Asp Gly Ser Pro Arg Ala Ser Thr Pro  
130 135 140  
Ser Cys Leu Glu Glu Leu Gln Ala Glu Ile Gln Ala Val Thr Gln Ala  
145 150 155 160  
Ile Asp Gln Met Ser Asp Asp  
165

<210> 149

<211> 153

<212> PRT

<213> Chlamydia pneumoniae

<400> 149

His Gly Gly Pro Met Ala Val Gln Ser Ile Lys Glu Ala Val Thr Ser  
1 5 10 15  
Ala Ala Thr Ser Val Gly Cys Val Asn Cys Ser Arg Glu Ala Ile Pro  
20 25 30  
Ala Phe Asn Thr Glu Glu Arg Ala Thr Ser Ile Ala Arg Ser Val Ile  
35 40 45  
Ala Ala Ile Ile Ala Val Val Ala Ile Ser Leu Leu Gly Leu Gly Leu  
50 55 60  
Val Val Leu Ala Gly Cys Cys Pro Leu Gly Met Ala Ala Gly Ala Ile  
65 70 75 80  
Thr Met Leu Leu Gly Val Ala Leu Leu Ala Trp Ala Ile Leu Ile Thr  
85 90 95  
Leu Arg Leu Leu Asn Ile Pro Lys Ala Glu Ile Pro Ser Pro Gly Asn  
100 105 110  
Asn Gly Glu Pro Asn Glu Arg Asn Ser Ala Thr Pro Pro Leu Glu Gly  
115 120 125  
Gly Val Ala Gly Glu Ala Gly Arg Gly Gly Gly Ser Pro Leu Thr Gln  
130 135 140  
Leu Asp Leu Asn Ser Gly Ala Gly Ser  
145 150

<210> 150

<211> 627

<212> PRT

<213> Chlamydia pneumoniae

<400> 150

Gly Lys Trp Trp Arg Val Ser Ser Met Glu Ser Glu Lys Asp Ile Gly  
1 5 10 15  
Ala Lys Phe Leu Gly Asp Tyr Arg Ile Leu Tyr Arg Lys Gly Gln Ser  
20 25 30  
Leu Trp Ser Glu Asp Leu Leu Ala Glu His Arg Phe Ile Lys Lys Arg  
35 40 45  
Tyr Leu Ile Arg Leu Leu Leu Pro Asp Leu Gly Ser Ser Gln Pro Phe  
50 55 60  
Met Glu Ala Phe His Asp Val Val Val Lys Leu Ala Lys Leu Asn His  
65 70 75 80  
Pro Gly Ile Leu Ser Ile Glu Asn Val Ser Glu Ser Glu Gly Arg Cys  
85 90 95  
Phe Leu Val Thr Gln Glu Gln Asp Ile Pro Ile Leu Ser Leu Thr Gln  
100 105 110  
Tyr Leu Lys Ser Ile Pro Arg Lys Leu Thr Glu Leu Glu Ile Val Asp  
115 120 125  
Ile Val Ser Gln Leu Ala Ser Leu Leu Asp Tyr Val His Ser Glu Gly  
130 135 140  
Leu Ala Gln Glu Glu Trp Asn Leu Asp Ser Val Tyr Ile His Ile Leu  
145 150 155 160



<210> 151  
 <211> 665  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 151  
 Glu Arg Phe Met Lys Glu Glu Asn Ser Gln Ala His Tyr Leu Ala Leu  
 1 5 10 15  
 Cys Arg Glu Leu Glu Asp His Asp Tyr Ser Tyr Tyr Val Leu His Arg  
 20 25 30  
 Pro Arg Ile Ser Asp Tyr Glu Tyr Asp Met Lys Leu Arg Lys Leu Leu  
 35 40 45  
 Glu Ile Glu Arg Ser His Pro Glu Trp Lys Val Leu Trp Ser Pro Ser  
 50 55 60  
 Thr Arg Leu Gly Asp Arg Pro Ser Gly Thr Phe Ser Val Val Ser His  
 65 70 75 80  
 Lys Glu Pro Met Leu Ser Ile Ala Asn Ser Tyr Ser Lys Glu Glu Leu  
 85 90 95  
 Ser Glu Phe Phe Ser Arg Val Glu Lys Ser Leu Gly Thr Ser Pro Arg  
 100 105 110  
 Tyr Thr Val Glu Leu Lys Ile Asp Gly Ile Ala Val Ala Ile Arg Tyr  
 115 120 125  
 Glu Asp Arg Val Leu Val Gln Ala Leu Ser Arg Gly Asn Gly Lys Gln  
 130 135 140  
 Gly Glu Asp Ile Thr Ser Asn Ile Arg Thr Ile Arg Ser Leu Pro Leu  
 145 150 155 160  
 Arg Leu Pro Glu Asp Ala Pro Glu Phe Ile Glu Val Arg Gly Glu Val  
 165 170 175  
 Phe Phe Ser Tyr Ser Thr Phe Gln Ile Ile Asn Glu Lys Gln Gln Gln  
 180 185 190  
 Leu Glu Lys Thr Ile Phe Ala Asn Pro Arg Asn Ala Ala Gly Gly Thr  
 195 200 205  
 Leu Lys Leu Leu Ser Pro Gln Glu Val Ala Lys Arg Lys Leu Glu Ile  
 210 215 220  
 Ser Ile Tyr Asn Leu Ile Ala Pro Gly Asp Asn Asp Ser His Tyr Glu  
 225 230 235 240  
 Asn Leu Gln Arg Cys Leu Glu Trp Gly Phe Pro Val Ser Gly Lys Pro  
 245 250 255  
 Arg Leu Cys Ser Thr Pro Glu Glu Val Ile Ser Val Leu Lys Thr Ile  
 260 265 270  
 Glu Thr Glu Arg Ala Ser Leu Pro Met Glu Ile Asp Gly Ala Val Ile  
 275 280 285  
 Lys Val Asp Ser Leu Ala Ser Gln Arg Val Leu Gly Ala Thr Gly Lys  
 290 295 300  
 His Tyr Arg Trp Ala Leu Ala Tyr Lys Tyr Ala Pro Glu Glu Ala Glu  
 305 310 315 320  
 Thr Leu Leu Glu Asp Ile Leu Val Gln Val Gly Arg Thr Gly Val Leu  
 325 330 335  
 Thr Pro Val Ala Lys Leu Thr Pro Val Leu Leu Ser Gly Ser Leu Val  
 340 345 350  
 Ser Arg Ala Ser Leu Tyr Asn Glu Asp Glu Ile His Arg Lys Asp Ile  
 355 360 365  
 Arg Ile Gly Asp Thr Val Cys Val Ala Lys Gly Gly Glu Val Ile Pro  
 370 375 380  
 Lys Val Val Arg Val Cys Arg Glu Lys Arg Pro Glu Gly Ser Glu Val  
 385 390 395 400  
 Trp Asn Met Pro Glu Phe Cys Pro Val Cys His Ser His Val Val Arg  
 405 410 415  
 Glu Glu Asp Arg Val Ser Val Arg Cys Val Asn Pro Glu Cys Val Ala  
 420 425 430



Gly	Ala	Ile	Glu	Lys	Ile	Arg	Phe	Phe	Val	Gly	Arg	Gly	Ala	Leu	Asn
		435					440					445			
Ile	Asp	His	Leu	Gly	Val	Lys	Val	Ile	Thr	Lys	Leu	Phe	Glu	Leu	Gly
	450					455					460				
Leu	Val	His	Thr	Cys	Ala	Asp	Leu	Phe	Gln	Leu	Thr	Thr	Glu	Asp	Leu
465					470					475					480
Met	Gln	Ile	Pro	Gly	Ile	Arg	Glu	Arg	Ser	Ala	Arg	Asn	Ile	Leu	Glu
				485					490					495	
Ser	Ile	Glu	Gln	Ala	Lys	His	Val	Asp	Leu	Asp	Arg	Phe	Leu	Val	Ala
			500					505					510		
Leu	Gly	Ile	Pro	Leu	Ile	Gly	Ile	Gly	Val	Ala	Thr	Val	Leu	Ala	Gly
	515						520					525			
His	Phe	Glu	Thr	Leu	Asp	Arg	Val	Ile	Ser	Ala	Thr	Phe	Glu	Glu	Leu
	530					535					540				
Leu	Ser	Leu	Glu	Gly	Ile	Gly	Glu	Lys	Val	Ala	His	Ala	Ile	Ala	Glu
545					550					555					560
Tyr	Phe	Ser	Asp	Ser	Thr	His	Leu	Asn	Glu	Ile	Lys	Lys	Met	Gln	Asp
				565					570					575	
Leu	Gly	Val	Cys	Ile	Ser	Pro	Tyr	His	Lys	Ser	Gly	Ser	Thr	Cys	Phe
			580					585					590		
Gly	Lys	Ala	Phe	Val	Ile	Thr	Gly	Thr	Leu	Glu	Gly	Met	Ser	Arg	Leu
	595						600					605			
Asp	Ala	Glu	Thr	Ala	Ile	Arg	Asn	Cys	Gly	Gly	Lys	Val	Gly	Ser	Ser
	610					615					620				
Val	Ser	Lys	Gln	Thr	Asp	Tyr	Val	Val	Met	Gly	Asn	Asn	Pro	Gly	Ser
625					630					635					640
Lys	Leu	Glu	Lys	Ala	Arg	Lys	Leu	Gly	Val	Ser	Ile	Leu	Asp	Gln	Glu
				645					650					655	
Ala	Phe	Thr	Asn	Leu	Ile	His	Leu	Glu							
			660					665							

<210> 152

<211> 1562

<212> PRT

<213> Chlamydia pneumoniae

<400> 152

Ile	Ile	Tyr	Tyr	Lys	Phe	Phe	Tyr	Ser	Tyr	Asn	Cys	Pro	Tyr	Phe	Ile
1				5					10					15	
Ser	Phe	Phe	Val	Leu	Leu	Gly	Val	Asn	Met	Ala	Ser	Ser	Ser	Asn	Asn
			20					25					30		
Ser	Thr	Lys	Gln	Asp	Gly	Ile	Pro	Ser	Trp	Val	Asn	Pro	Asn	Val	Gln
		35					40					45			
Trp	Asn	Arg	Ala	Ser	Gln	Val	Gly	Asp	Gln	Glu	Ala	Asn	Ser	Leu	Thr
	50					55					60				
Pro	Glu	Ala	Gln	Thr	Ser	Arg	Ser	Trp	Phe	Ser	Asp	Arg	Lys	His	Phe
65					70					75					80
Leu	Glu	Val	Leu	Asp	Val	Ser	Leu	Glu	Glu	Met	Glu	Asn	Asn	Asp	Leu
				85					90					95	
Lys	Lys	Tyr	Ser	Arg	Tyr	Lys	Thr	Ile	Ile	Leu	Ile	Ala	Thr	Leu	Val
			100					105					110		
Thr	Val	Ala	Ile	Thr	Cys	Ile	Val	Pro	Ile	Ser	Met	Val	Phe	Gly	Ile
		115					120					125			
Pro	Met	Trp	Val	Pro	Cys	Leu	Ile	Leu	Phe	Gly	Ala	Gly	Leu	Ser	Ser
	130					135					140				
Ala	Phe	Leu	Ser	His	Arg	Leu	Gln	Ser	Lys	Cys	Lys	Glu	Ile	His	Leu
145					150					155					160
Arg	Tyr	Arg	Ala	Tyr	Gln	Ile	Tyr	Arg	Gln	Gln	Leu	Leu	Ser	Gln	Tyr
				165					170					175	
Pro	Asp	Leu	Arg	Lys	Ser	Thr	Leu	Tyr	Lys	Tyr	Ser	Ile	Thr	His	Val
			180					185					190		

Lys	Pro	Lys	Lys	Gly	Phe	Val	Gly	Lys	Leu	Val	Glu	Asn	Leu	Arg	Pro
		195					200					205			
Asp	Leu	His	Lys	Asn	Lys	Asp	Asp	Gly	Gly	Ala	Ala	Ala	Asp	Ser	Arg
	210					215					220				
Leu	Asp	Phe	Ala	Gly	Tyr	Gly	Val	Lys	His	Tyr	Gln	Thr	Asp	Ala	Leu
225					230					235					240
Leu	Gly	Val	Ser	Gly	Val	Asn	Ser	Val	Glu	Trp	Gln	Arg	Leu	Ala	Ser
				245					250					255	
Leu	Ile	Met	Ser	Val	Lys	Asn	Asp	Ile	Leu	Asn	Asp	Val	Gly	Ser	Arg
			260					265					270		
Glu	Pro	Ile	Asp	Lys	Ala	Gln	Arg	Ser	Ala	Leu	Val	Val	Ser	Gly	Lys
		275					280						285		
Asp	Ile	Gly	Gly	Glu	Ile	Gln	Pro	Gly	Gly	Ile	Leu	Asp	Ile	Ser	Arg
	290					295					300				
Asp	Ile	Leu	Ala	Ile	Cys	Gly	Tyr	Gly	Met	Asn	Val	Gly	Val	Glu	Ala
305					310					315					320
Lys	Lys	Ala	Ile	Asp	Gln	Tyr	Lys	Lys	Trp	Tyr	Leu	Asn	Ser	Ser	Thr
				325					330					335	
Phe	Ile	Ala	Trp	Asn	Pro	Gln	Leu	Pro	Ala	Ile	Ala	Gln	Ser	Tyr	Leu
			340					345					350		
Leu	Glu	Gln	Gln	Arg	His	Leu	Asp	Tyr	Ala	Ala	Lys	Ile	Phe	Gln	Asp
		355					360					365			
Leu	Ser	Ala	Leu	Thr	Thr	Ala	His	Gly	Thr	Gly	Gln	Ala	Leu	Glu	Asp
	370					375					380				
Leu	Asp	Ser	Leu	Leu	Cys	Tyr	Tyr	Asp	Gln	Leu	Ile	Glu	Ser	Lys	Gly
385					390					395					400
Val	Gly	Glu	Lys	Ile	Ile	Ala	Ser	Ile	His	Gln	Lys	His	Leu	Asp	Leu
				405					410					415	
Ala	Met	Gln	Asp	Ser	Cys	Asp	Gln	Glu	His	Leu	Lys	Lys	Trp	Ser	Asn
			420					425					430		
Leu	Tyr	His	Val	Phe	Ser	Ile	Thr	Ile	Lys	Glu	Phe	Thr	Glu	Gly	Lys
		435					440					445			
Leu	Glu	Gln	Asn	Glu	Val	Val	Ser	Arg	Ile	Gln	Arg	Leu	Arg	Gly	Lys
	450					455				460					
Leu	Glu	Lys	Ser	Lys	Cys	Ser	Ile	Leu	Gly	Asn	Cys	Arg	Thr	Asn	Ala
465					470					475					480
Glu	Tyr	Ala	Thr	Lys	Ser	Glu	Lys	Lys	Leu	Ala	Asp	Tyr	Leu	Leu	Gln
				485					490					495	
Ile	Gly	Asp	Arg	Glu	Pro	Phe	Leu	Thr	Gly	Met	His	Lys	Ala	Ile	Ala
				500				505					510		
Thr	Gly	Lys	Ala	Ile	Gln	Gly	Lys	Val	Glu	Gly	Val	Ile	Ser	Gln	His
		515					520					525			
Pro	Glu	Lys	Gln	Ile	Met	Met	Leu	Arg	Cys	Ser	Ile	Glu	Arg	Leu	Glu
	530					535					540				
Gly	Met	Leu	Arg	Arg	Glu	Asp	Trp	Gly	Ala	Ile	Leu	Gln	Lys	Asn	Glu
545					550					555					560
Asp	Glu	Val	Leu	Ala	Leu	Lys	Ser	Thr	Met	Glu	Ala	Gln	Leu	Gln	Gly
				565					570					575	
Phe	Lys	Asp	Leu	Val	Gly	Thr	Trp	Glu	Gly	Lys	Tyr	Gln	Glu	Phe	Lys
			580					585					590		
Lys	Asn	Lys	Leu	Ser	Lys	Val	Leu	Val	Tyr	Asp	Phe	Thr	Lys	Ser	Tyr
		595					600					605			
Ser	Asn	Leu	Leu	Asn	Arg	Leu	Glu	Val	Leu	His	Ala	Glu	Ser	Ser	Thr
	610					615					620				
Asp	Asp	Leu	Val	Leu	His	Val	Asp	Arg	Met	Ser	Glu	Asp	Leu	Lys	Lys
625					630					635					640
Thr	Ile	Glu	Glu	Ile	Asp	Gly	Asn	Leu	Phe	Gln	Val	Thr	Pro	Glu	Glu
				645					650					655	
Leu	Ser	Leu	Leu	Ala	Arg	Glu	Tyr	Gln	Gly	Leu	Met	Asn	Glu	Leu	Pro
			660					665					670		

Leu	Ile	Val	Gln	Glu	Gly	Asn	Arg	Leu	Gln	Glu	Ala	Ile	Ser	Ser	Glu
		675					680					685			
Gly	Val	Ser	Gln	Gly	Leu	Met	Leu	Leu	Asn	Ser	Leu	Leu	Asn	Arg	Asp
		690				695					700				
Glu	Lys	Ile	Asn	Lys	Asn	Ile	Glu	Ser	Ser	Arg	Lys	Asn	Leu	Val	Ala
705					710					715					720
Ile	Ala	Lys	Gln	Ala	Arg	Ser	Asp	Ala	Arg	Asn	Ile	Asp	Ser	Gln	Gly
			725						730					735	
Leu	Ala	Pro	Leu	Ile	Gln	Arg	Asn	Arg	Ala	Ser	Leu	Asp	Asn	Ile	Leu
			740					745					750		
Gln	Asn	Met	Tyr	Leu	Phe	Asn	Gly	Ser	Ile	Arg	Asn	Ile	His	Ala	Leu
		755					760					765			
Asp	Thr	Glu	Thr	Leu	Val	Ala	Thr	Ser	Ser	Asn	Met	Phe	Ser	Ala	Met
		770					775				780				
His	Thr	Phe	Asp	Trp	Asn	Ile	Tyr	Thr	Asn	Leu	Leu	Asp	Val	Leu	Glu
785					790					795					800
Ile	Gln	Ser	Lys	Pro	Ala	Pro	Ala	Pro	Met	Glu	Asn	Pro	Asp	Leu	Pro
			805						810					815	
Gly	Ala	Leu	Pro	Glu	Glu	Val	Gln	Asp	Ala	Val	Ala	Glu	Asp	Val	Ser
			820					825					830		
Gly	Thr	His	Arg	Leu	His	His	Gln	Val	Leu	Lys	Arg	Arg	Cys	Ala	Asp
		835					840					845			
Leu	Lys	Asn	Met	Ile	Ser	Gln	Leu	Gln	Lys	Ser	Ile	Asn	Lys	Trp	Gly
		850				855					860				
Met	Ala	Lys	Ala	Ile	Val	Leu	Gly	Ile	Val	Ala	Val	Leu	Phe	Cys	Val
865					870					875					880
Leu	Ser	Ala	Ile	Phe	Ile	Gly	Gln	Asn	Ile	Leu	Ser	Leu	Leu	Ile	Leu
			885						890					895	
Ser	Cys	Val	Gly	Leu	Leu	Leu	Thr	Gln	Val	Cys	Pro	Leu	Ile	Phe	Asp
			900					905					910		
Arg	Ile	Ser	Lys	Ser	Lys	Glu	Phe	Glu	Lys	Gln	Val	Leu	Glu	Thr	Ala
		915					920					925			
Gln	Ser	Leu	Ile	Pro	Ala	Thr	Lys	Ile	Leu	Pro	Ser	Glu	Phe	Asn	Asn
		930				935					940				
Lys	Asp	Leu	Asn	Arg	Leu	Ala	Lys	Leu	Gln	Asp	Asn	Leu	Asn	Leu	Glu
945					950					955					960
Gly	Phe	Gly	Pro	Thr	Trp	Ala	Arg	Asn	Ile	Val	Ser	Asp	Leu	Glu	Gly
			965						970					975	
Ile	Pro	Thr	Lys	Glu	Lys	Ser	Leu	Lys	Asp	Leu	Thr	Lys	Glu	Phe	Arg
			980					985					990		
Lys	Asp	Ser	Lys	Asn	Leu	Asn	Lys	Arg	Ile	Lys	Arg	Arg	Phe	Lys	Glu
		995					1000					1005			
Gly	Leu	Gly	Gln	Glu	Ala	Pro	Val	Val	Arg	Pro	Thr	Ile	Pro	Gln	Asp
		1010				1015					1020				
Ile	Arg	Gly	Ala	Glu	Val	Phe	Ala	Glu	Leu	His	Arg	Glu	Leu	Glu	His
1025					1030					1035					1040
Leu	Gln	Lys	Gln	Lys	Glu	Glu	Ile	Ser	Ile	Arg	Gly	Asp	Ala	Leu	Val
			1045						1050					1055	
Gln	Glu	Arg	Met	Gly	Leu	Cys	Leu	Glu	Lys	Ser	Lys	Tyr	Asp	Asn	Glu
			1060					1065					1070		
Lys	Ala	His	Ala	Ala	Ala	Met	Thr	Lys	Lys	Val	Gly	Lys	Leu	Gln	Asn
		1075					1080					1085			
Ile	Asp	Arg	Leu	Gln	Lys	Asn	Asn	Glu	Thr	Tyr	Val	Arg	Ile	Gln	Asn
		1090				1095					1100				
Phe	Phe	Arg	Thr	Leu	Ile	Gln	Glu	Lys	Leu	Gly	Arg	Asp	Thr	Val	Gln
1105					1110					1115					1120
Glu	Ile	Asp	Val	Val	Lys	Glu	Ala	Lys	Glu	Leu	His	Glu	Leu	Ala	Ala
			1125						1130					1135	
Ile	Ile	Tyr	Gly	Asn	Thr	Ser	Gly	Lys	Ser	Gln	Lys	Gln	Arg	Ala	Lys
			1140					1145					1150		

Lys Gln Phe Lys Glu Asn Val Leu His Ile Ala Gly Lys Gly Gln Leu  
 1155 1160 1165  
 Glu Leu Leu Glu Ala Tyr Leu Asn Val Thr Ala Ser Gln Gly Leu Cys  
 1170 1175 1180  
 Arg His Gln Met Gln Ala Ser Phe Arg Glu Arg Ile Leu Leu Asn Pro  
 1185 1190 1195 1200  
 Asp Gly Ala Lys His Gly Glu Ala Glu Arg Thr Leu Ala Ser Arg Glu  
 1205 1210 1215  
 Glu Met Leu Lys Thr Leu Gly Leu Ser Tyr Leu Thr Pro Phe Val Arg  
 1220 1225 1230  
 Phe Ser Ser Pro Glu Ser Thr Gln Ser Gly Tyr Asn Gln Ile Leu Lys  
 1235 1240 1245  
 Val Arg Glu Gln Leu Phe Asp Ile Glu Gln Arg Leu Gln Asn Gln Glu  
 1250 1255 1260  
 Thr Val Ser Pro Glu Asp Tyr Ala Ala Val Gln Ala Ala Leu Ala Ala  
 1265 1270 1275 1280  
 Tyr Val Arg Lys His Glu Ser Leu Ile Val Ser Thr Tyr Gly Leu Gly  
 1285 1290 1295  
 Ala Gln Glu Gly Gln Thr Ser Ser Lys Val Thr Thr Leu Met Arg Asp  
 1300 1305 1310  
 Leu His Ala Val Glu Glu Leu Val Glu Met Gly Val Glu Thr Tyr Arg  
 1315 1320 1325  
 Leu Asn Arg Ser Asp Gln Ile Leu His Arg Val His Ser Val Leu His  
 1330 1335 1340  
 Ser His Leu Arg Asp Cys Asp Ser Ser Gly Asn Gly Ile Ile Asp Val  
 1345 1350 1355 1360  
 Val Lys Lys Leu Phe Glu Leu Leu Asn Asn Asn Gly Asn Asn Pro Asn  
 1365 1370 1375  
 Asp Pro Glu Cys Gln Lys Tyr Met Gln Ile Leu Leu Asp Ala Pro Val  
 1380 1385 1390  
 Ser Leu Leu Tyr Gly Ala Phe Lys Ser Phe Lys Asn Glu Phe Leu Leu  
 1395 1400 1405  
 Asn Phe Thr Glu Leu Asn Ile Ala Asn Ser Thr Lys Ala Ala Glu Glu  
 1410 1415 1420  
 Glu Ala Lys Arg Tyr Val Glu Glu Lys Gly Arg Gly Phe Glu Thr Tyr  
 1425 1430 1435 1440  
 Trp Glu Glu Ala Lys Gln Arg Leu Glu Ala Ile Ala Ala Glu Leu Asp  
 1445 1450 1455  
 Asp Leu Arg Asn Gln Glu Thr Leu Leu Glu Gln Glu Ile Arg Leu Ala  
 1460 1465 1470  
 Asn Leu Lys Ile Ser Ile Phe Ser Asp Leu Asn Leu Arg Glu Lys Val  
 1475 1480 1485  
 Ser Val Glu Lys Ala Ala Leu Glu Glu Glu Ile Gln Gly Ile Gln Glu  
 1490 1495 1500  
 Gln Tyr Ala Glu Met Gln Gly Ile Glu Asp Leu Glu Leu Lys Gln Lys  
 1505 1510 1515 1520  
 Phe Glu Asp Leu Gln Lys Lys Leu Glu Ala Leu Glu Glu Arg Leu Leu  
 1525 1530 1535  
 Gln Ile Gly Arg Arg Ile Asp Ser Ser Val Asp Lys Gln Lys Glu Leu  
 1540 1545 1550  
 Leu Gly Leu Leu Gly Arg Glu Glu Ala Ala  
 1555 1560

<210> 153  
 <211> 518  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 153  
 Cys Tyr Glu Asn Leu Phe His Tyr Pro Arg Ala Ser Met Ala Asp Ile  
 1 5 10 15

Leu Val Ile Gly Ala Asn Pro Thr Gly Leu Ile Leu Ala Asn Met Leu  
 20 25 30  
 Ile Gln His Gly Ile Ser Val Lys Val Ile Asp His Arg Ala Ser Pro  
 35 40 45  
 Glu Asp Pro Ser Phe Leu Asp Cys Arg Lys Leu Pro Val Ile Leu Ser  
 50 55 60  
 Cys Ser Ser Leu Glu Leu Leu His Asn Ser Glu Met Leu Gly Asp Phe  
 65 70 75 80  
 Ile Gln Ala Asn His Lys Ile Phe Gly Ala Arg Tyr His Trp Lys Lys  
 85 90 95  
 Arg Thr Leu Leu Phe Lys Phe Ser Gln Ala Thr Asp Ser Pro Val Pro  
 100 105 110  
 Phe Ser Leu Ser Thr Thr Tyr Gln Ser Leu Glu Gln His Leu Ile Asp  
 115 120 125  
 Glu Phe Leu Lys Arg Gly Gly Val Ile Asp Trp Ser Thr Arg Pro Val  
 130 135 140  
 Thr Leu Val Asp Asn Ser Ile Phe Ile Glu Ser Thr Lys Val Ser Gln  
 145 150 155 160  
 Asn Phe Glu Asn Arg Glu Ile Tyr Asn Pro Lys Trp Ile Ile Ala Cys  
 165 170 175  
 Glu Ala Asp Asn Asn Leu Asp Ile Arg Asp Leu Val Lys Ser Gln Leu  
 180 185 190  
 Arg Ala Arg Arg Ile Asn Arg Glu Val Ile Phe Ile Asn Cys Asp Glu  
 195 200 205  
 Gly Glu Pro Phe Glu Glu Asp His Ile His Leu Leu Pro Ile Thr Lys  
 210 215 220  
 Asn Phe Leu Asn Phe Val Phe Tyr Asn Pro Gln Glu Lys Thr Lys Gln  
 225 230 235 240  
 Leu Cys Leu Pro Gln Gly Thr His Ser Ile Ser Pro Lys Leu Lys Gln  
 245 250 255  
 Lys Leu Leu Tyr Thr Tyr Asn Leu Val Ile Ser Asp Glu Asn Phe His  
 260 265 270  
 Ile Lys Thr Ser His His Ala Phe Pro Pro Glu His Gly Asn Val Leu  
 275 280 285  
 Phe Leu Gly Ser Leu Ser Asn Thr Leu Leu Leu Ser Tyr Leu Asn Gly  
 290 295 300  
 Ile Asn Thr Asn Ile His Ala Ala Phe Asn Leu Ala Trp Lys Leu Leu  
 305 310 315 320  
 Pro Val Leu Lys Lys Ala Ala Leu Lys His Leu Val Ile Thr Lys Glu  
 325 330 335  
 Gln Glu Asp Gly Asn Ile Leu Pro Tyr Ile Ser Pro Thr Thr Glu Lys  
 340 345 350  
 Arg Ala Lys Lys Leu Pro Phe Ser Arg Phe Tyr Thr Pro Ala Leu Met  
 355 360 365  
 Tyr Tyr Phe Leu Lys Gly Cys Arg Lys Phe Asn Thr Thr Gly Glu Glu  
 370 375 380  
 Tyr Tyr Tyr Pro Pro His Gln Ala Leu Lys Tyr Arg Ser Ser Asp Ile  
 385 390 395 400  
 Ile Lys Met Ser Pro Gln Asp Lys Glu Ile His Gly Pro Gly Pro Gly  
 405 410 415  
 Met Arg Ala Ile Asp Ala Arg Leu Glu Asn Gly Ser Phe Leu Leu Asp  
 420 425 430  
 Pro Leu Lys Ser Ser Lys His Leu Leu Ile Phe Phe Lys Asp Ile Pro  
 435 440 445  
 Asp Leu Lys Glu Ala Leu Gln Glu Glu Tyr Gly Glu Trp Ile Glu Ile  
 450 455 460  
 Cys Asn Val Lys Glu Pro Arg Ile Leu Asn Leu Tyr His Ala Asn Pro  
 465 470 475 480  
 Asn Ser Leu Phe Ile Ile Arg Pro Asp Arg Tyr Ile Gly Tyr Arg Thr  
 485 490 495

His Thr Phe Lys Leu His Glu Leu Ile Ser Tyr Leu Leu Arg Ile Phe  
500 505 510  
Ala Ser Glu Lys Thr Ser  
515

<210> 154  
<211> 319  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 154  
Leu Ile Lys Met Arg Lys Val Ala Phe Leu Val Ser Cys Leu Phe Ser  
1 5 10 15  
Val Ala Ile Gly Ala Ser Ala Ala Pro Val Arg Val Pro Gly Phe Pro  
20 25 30  
Gln Ile Pro Glu Asp Leu Val Gln Ile Lys Thr Glu Val Cys Pro Lys  
35 40 45  
Gln Glu Val Cys Leu Ala Val Thr Ile Lys Cys Asp Asp His Asn Leu  
50 55 60  
Ile Gly Val Leu His Leu Pro Asn Thr Pro Thr Pro Glu Gly Gly Phe  
65 70 75 80  
Pro Thr Val Val Leu Phe His Gly Phe Arg Gly Thr Lys Phe Gly Gly  
85 90 95  
Leu Thr Gly Ala Tyr Arg Lys Leu Gly Arg Lys Phe Ala Ala Val Gly  
100 105 110  
Ile Ala Thr Leu Arg Val Asp Met Ala Gly Cys Gly Asp Ser Glu Gly  
115 120 125  
Val Ala Glu Glu Val Pro Ile Glu Thr Tyr Leu Arg Asp Ala Gln Thr  
130 135 140  
Ile Leu Glu Thr Val Gln Glu His Pro Asp Leu Asn Ala Tyr Arg Leu  
145 150 155 160  
Gly Ile Ser Gly Phe Ser Leu Gly Cys His Ile Ala Phe Glu Leu Ala  
165 170 175  
Lys Ile Tyr Asn Pro Arg Asp Leu Asn Ile Lys Ala Leu Ser Val Trp  
180 185 190  
Ala Pro Ile Ala Asp Gly Gly Ile Leu Leu Lys Glu Leu Tyr Glu Asn  
195 200 205  
Phe Ser Lys His Gly Glu Gly Asp Ile Ile Ser Val Gly Lys Asp Phe  
210 215 220  
Gly Phe Gly Pro Pro Pro Ile Ile Val Cys Ser Gly Asp Val Asp Leu  
225 230 235 240  
Leu Ile Arg Ile Gln Asp His Val Thr Ala Asn Ser Leu Pro Thr Lys  
245 250 255  
Pro Tyr Ile Leu His Gln Gln Gly Ile Asp Asp Thr Leu Val Ser Arg  
260 265 270  
Thr Gln Gln Thr Leu Phe Lys Asn Thr Ala Pro Gly Arg Met Thr Phe  
275 280 285  
Ile Ser Tyr Pro Asn Thr Gly His Asn Leu Ala Thr Ala Pro Asp Leu  
290 295 300  
Asp Met Ile Leu Asp Gln Ile Val Ser His Phe Gln Arg Thr Leu  
305 310 315

<210> 155  
<211> 821  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 155  
Asn Met Arg Tyr Asp Pro Asn Leu Ile Glu Lys Lys Trp Gln Gln Phe  
1 5 10 15



Phe	Cys	Asp	Ala	His	Asn	Ser	Gln	Leu	Pro	Trp	Ser	Lys	Glu	Lys	Glu
			500					505					510		
Ser	Tyr	Trp	Met	Pro	Val	Asp	Leu	Tyr	Ile	Gly	Gly	Ala	Glu	His	Ala
		515					520					525			
Val	Leu	His	Leu	Leu	Tyr	Ser	Arg	Phe	Trp	His	Arg	Val	Phe	Tyr	Asp
	530					535					540				
Ala	Gly	Leu	Val	Ser	Thr	Pro	Glu	Pro	Phe	Lys	Lys	Leu	Ile	Asn	Gln
545					550					555					560
Gly	Leu	Val	Leu	Ala	Ser	Ser	Tyr	Arg	Ile	Pro	Gly	Lys	Gly	Tyr	Val
				565				570						575	
Ser	Ile	Glu	Asp	Val	Arg	Glu	Glu	Asn	Gly	Thr	Trp	Ile	Ser	Thr	Cys
		580						585					590		
Gly	Glu	Ile	Val	Glu	Val	Arg	Gln	Glu	Lys	Met	Ser	Lys	Ser	Lys	Leu
		595					600					605			
Asn	Gly	Val	Asp	Pro	Gln	Val	Leu	Ile	Glu	Glu	Tyr	Gly	Ala	Asp	Ala
	610					615					620				
Leu	Arg	Met	Tyr	Ala	Met	Phe	Ser	Gly	Pro	Leu	Asp	Lys	Asn	Lys	Thr
625					630					635					640
Trp	Ser	Asn	Glu	Gly	Val	Gly	Gly	Cys	Arg	Arg	Phe	Leu	Asn	Arg	Phe
			645					650						655	
Tyr	Asp	Leu	Val	Thr	Ser	Ser	Glu	Val	Gln	Asp	Ile	Glu	Asp	Arg	Asp
		660					665						670		
Gly	Leu	Val	Leu	Ala	His	Lys	Leu	Val	Phe	Arg	Ile	Thr	Glu	His	Ile
	675						680					685			
Glu	Lys	Met	Ser	Leu	Asn	Thr	Ile	Pro	Ser	Ser	Phe	Met	Glu	Phe	Leu
	690					695					700				
Asn	Asp	Phe	Ser	Lys	Leu	Pro	Val	Tyr	Ser	Lys	Arg	Ala	Leu	Ser	Met
705					710					715					720
Ala	Val	Arg	Val	Leu	Glu	Pro	Ile	Ala	Pro	His	Ile	Ser	Glu	Glu	Leu
			725						730					735	
Trp	Val	Ile	Leu	Gly	Asn	Pro	Pro	Gly	Ile	Asp	Gln	Ala	Ala	Trp	Pro
	740						745						750		
Gln	Ile	Asp	Glu	Ser	Tyr	Leu	Val	Ala	Gln	Thr	Val	Thr	Phe	Val	Val
	755					760						765			
Gln	Val	Asn	Gly	Lys	Leu	Arg	Gly	Arg	Leu	Glu	Val	Ala	Lys	Glu	Ala
	770				775						780				
Pro	Lys	Glu	Glu	Val	Leu	Ser	Leu	Ser	Arg	Ser	Val	Val	Ala	Lys	Tyr
785					790					795					800
Leu	Glu	Asn	Ala	Gln	Ile	Arg	Lys	Glu	Ile	Tyr	Val	Pro	Asn	Lys	Leu
			805					810						815	
Val	Asn	Phe	Val	Leu											
			820												

<210> 156  
 <211> 443  
 <212> PRT  
 <213> Chlamydia pneumoniae

Thr	Ser	Glu	Phe	Cys	Pro	Met	Met	Leu	Arg	Gly	Val	His	Arg	Ile	Phe
1				5					10					15	
Lys	Cys	Phe	Tyr	Asp	Val	Val	Leu	Val	Cys	Ala	Phe	Val	Ile	Ala	Leu
		20					25						30		
Pro	Lys	Leu	Leu	Tyr	Lys	Met	Leu	Val	Tyr	Gly	Lys	Tyr	Lys	Lys	Ser
	35					40						45			
Leu	Ala	Val	Arg	Phe	Gly	Leu	Lys	Lys	Pro	His	Val	Pro	Gly	Glu	Gly
	50					55					60				
Pro	Leu	Val	Trp	Phe	His	Gly	Ala	Ser	Val	Gly	Glu	Val	Arg	Leu	Leu
65					70					75					80
Leu	Pro	Val	Leu	Glu	Lys	Phe	Cys	Glu	Glu	Phe	Pro	Gly	Trp	Arg	Cys
			85						90						95



Leu Val Thr Ser Cys Thr Glu Leu Gly Val Gln Val Ala Ser Gln Val  
 100 105 110  
 Phe Ile Pro Met Gly Ala Thr Val Ser Ile Leu Pro Leu Asp Phe Ser  
 115 120 125  
 Ile Ile Ile Lys Ser Val Val Ala Lys Leu Arg Pro Ser Leu Val Val  
 130 135 140  
 Phe Ser Glu Gly Asp Cys Trp Leu Asn Phe Ile Glu Glu Ala Lys Arg  
 145 150 155 160  
 Ile Gly Ala Thr Thr Leu Val Ile Asn Gly Arg Ile Ser Ile Asp Ser  
 165 170 175  
 Ser Lys Arg Phe Lys Phe Leu Lys Arg Leu Gly Lys Asn Tyr Phe Ser  
 180 185 190  
 Pro Val Asp Gly Phe Leu Leu Gln Asp Glu Val Gln Lys Gln Arg Phe  
 195 200 205  
 Leu Ser Leu Gly Ile Pro Glu His Lys Leu Gln Val Thr Gly Asn Ile  
 210 215 220  
 Lys Thr Tyr Val Ala Ala Gln Thr Ala Leu His Leu Glu Arg Glu Thr  
 225 230 235 240  
 Trp Arg Asp Arg Leu Arg Leu Pro Thr Asp Ser Lys Leu Val Ile Leu  
 245 250 255  
 Gly Ser Met His Arg Ser Asp Ala Gly Lys Trp Leu Pro Val Val Gln  
 260 265 270  
 Lys Leu Ile Lys Glu Gly Val Ser Val Leu Trp Val Pro Arg His Val  
 275 280 285  
 Glu Lys Thr Lys Asp Val Glu Glu Ser Leu His Arg Leu His Ile Pro  
 290 295 300  
 Tyr Gly Leu Trp Ser Arg Gly Ala Asn Phe Ser Tyr Val Pro Val Val  
 305 310 315 320  
 Val Val Asp Glu Ile Gly Leu Leu Lys Gln Leu Tyr Val Ala Gly Asp  
 325 330 335  
 Leu Ala Phe Val Gly Gly Thr Phe Asp Pro Lys Ile Gly Gly His Asn  
 340 345 350  
 Leu Leu Glu Pro Leu Gln Cys Glu Val Pro Leu Ile Phe Gly Pro His  
 355 360 365  
 Ile Thr Ser Gln Ser Glu Leu Ala Gln Arg Leu Leu Ser Gly Ala  
 370 375 380  
 Gly Leu Cys Leu Asp Glu Ile Glu Pro Ile Ile Asp Thr Val Ser Phe  
 385 390 395 400  
 Leu Leu Asn Asn Gln Glu Val Arg Glu Ala Tyr Val Gln Lys Gly Lys  
 405 410 415  
 Val Phe Val Lys Ala Glu Thr Ala Ser Phe Asp Arg Thr Trp Arg Ala  
 420 425 430  
 Leu Lys Ser Tyr Ile Pro Leu Tyr Lys Asn Ser  
 435 440

<210> 157

<211> 70

<212> PRT

<213> Chlamydia pneumoniae

<400> 157

Asn Ser Leu Ser Phe Gly Val Pro Phe Leu Glu Lys Leu Lys Ile Ser  
 1 5 10 15  
 Leu Ile Pro Ile Glu Glu Met Arg His Glu Leu Phe Met Lys Thr His  
 20 25 30  
 Asn Ser Ser Ser Asn Gly Phe Ser Asn Gln Glu Lys Gly Ile Arg Thr  
 35 40 45  
 Tyr Phe Lys Ser Asp Leu Leu Gly Tyr Glu Asp Leu Tyr Phe Leu Arg  
 50 55 60  
 Glu Asn Ile Asn Pro Asn  
 65 70

<210> 158  
 <211> 126  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 158  
 Leu Gly Lys Gln Lys Leu Leu Ala Arg His Met Met His Asn Ile Val  
 1 5 10 15  
 Val Leu Ser Glu Glu Pro Gly Arg Ser Ala Phe Leu Gly Arg Thr Ala  
 20 25 30  
 Phe Phe Pro Asn Lys Tyr Pro Ile Ala Gln Gly Gly Val Gly Ile Pro  
 35 40 45  
 Ser Thr Ile Gly Asn Leu Phe Thr Ile Trp Tyr Cys Phe Tyr Phe Tyr  
 50 55 60  
 Arg Ala Ala Thr Pro Gln Ser Asp His Pro Asp Gly Cys Gly Phe Ile  
 65 70 75 80  
 Leu Leu Glu Arg Leu Lys Glu Leu Gly Ala Gly Phe Phe Tyr Cys Asp  
 85 90 95  
 Leu Arg Glu Ser Asn Thr Thr Gly Phe Thr Leu Phe Phe Glu Gly Ser  
 100 105 110  
 Asn Lys Gly Val Leu Lys Asn His Leu Phe Ile Arg Asp Glu  
 115 120 125

<210> 159  
 <211> 152  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 159  
 Phe Ser Phe Val Thr Tyr Lys Glu Ala Leu Met Asn Ile Tyr Gln Phe  
 1 5 10 15  
 Ser Pro Gly Ala Ser Pro Asn Trp Gln Ala Ser Leu Met Ala Gln Leu  
 20 25 30  
 Asn Ser Tyr Phe Cys Leu Gly Gly Glu Thr Val Thr Arg Ile Ile Ser  
 35 40 45  
 Leu Arg Pro Ser Gly Leu Ile Leu Ala Lys Lys Glu Lys Ala Val Val  
 50 55 60  
 Ser Thr Ala Glu Lys Ile Leu Lys Ile Leu Ser Phe Ile Leu Phe Pro  
 65 70 75 80  
 Leu Val Leu Ile Ala Leu Ala Ile Arg Tyr Leu Leu Tyr Asn Lys Phe  
 85 90 95  
 Asn Lys Asp Leu Asp Arg Ala Val Phe Phe Ile Pro Thr Glu Ile Thr  
 100 105 110  
 Lys Ala Glu Leu Ile Ile Ala Lys Asn Pro Ala Leu Val Lys Glu  
 115 120 125  
 Ala Ala Leu Thr Val Ser Pro Leu Phe Tyr Ser Leu Pro Lys Lys Tyr  
 130 135 140  
 Gln Leu Met Lys Val Glu Thr Pro  
 145 150

<210> 160  
 <211> 190  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 160  
 Pro Pro Lys Ile Thr Leu Ser Ile Asn Ile Asp Leu Leu Leu Glu Asp  
 1 5 10 15  
 Leu Asp Thr Asp Ser Ile Pro Trp Pro Lys Leu Tyr Leu Ser Glu Asp  
 20 25 30

Phe	Asp	Phe	Ala	Tyr	Tyr	Pro	Glu	Ser	Lys	Ala	Ile	Ile	Asp	Thr	Val
	35						40					45			
Ala	Lys	Leu	Glu	Lys	Asn	Asn	Pro	Gly	Glu	Glu	Phe	Cys	Leu	Glu	Ser
	50					55					60				
Lys	Lys	Ile	Leu	Ala	Arg	Tyr	Leu	Leu	Glu	Gln	Leu	Phe	Lys	Leu	Glu
65					70					75					80
Thr	Gly	Leu	Asn	Phe	Pro	Thr	Ser	Thr	Ile	Asp	Gly	Gly	Arg	Glu	Ser
			85						90					95	
Phe	Leu	Ile	Glu	Phe	Ser	His	Glu	Thr	Lys	Lys	Pro	Thr	Val	Trp	Ala
			100					105					110		
Phe	Ile	Tyr	Phe	Tyr	Tyr	Tyr	His	Ser	Asn	Gly	Pro	Lys	Leu	Glu	Lys
	115						120					125			
Asp	Phe	Lys	Gln	Ala	Gly	Cys	Glu	Val	His	Asn	Arg	Leu	Leu	Asn	Leu
	130					135					140				
Gly	Leu	Lys	Tyr	Arg	Pro	Gln	Ala	Gly	Ala	Gln	Asn	Asp	Gly	Arg	Asn
145					150					155					160
Gly	Gly	Pro	Tyr	Gly	Pro	Ile	Gly	Phe	Leu	Ile	Val	Trp	Glu	Glu	Asn
				165					170					175	
Tyr	Gly	Ser	Val	Leu	Lys	Asp	His	Gly	Phe	Ile	Lys	Asp	Asn		
			180					185					190		

<210> 161  
 <211> 115  
 <212> PRT  
 <213> Chlamydia pneumoniae

Cys	Cys	Phe	Gly	Glu	Thr	Ala	Thr	Arg	Ile	Phe	Ser	Met	Thr	Pro	
1			5					10					15		
Ser	Gly	Phe	Ser	Leu	Ala	Thr	Glu	Glu	Lys	Val	Gln	Val	Ser	Thr	Ala
			20					25				30			
Glu	Lys	Val	Ile	Lys	Ile	Leu	Ala	Leu	Ile	Phe	Phe	Pro	Ile	Ile	Leu
		35					40					45			
Ile	Ala	Leu	Ala	Ile	Arg	Tyr	Phe	Leu	His	Arg	Lys	Phe	Asp	Arg	Lys
	50					55					60				
Cys	Phe	Val	Ile	Pro	Gln	Asp	Thr	Pro	Lys	Glu	Leu	Glu	Leu	Ile	Leu
65					70					75					80
Ala	Ala	Asn	Pro	Gln	Leu	Val	Glu	Lys	Ala	Ala	Arg	Glu	Val	His	Pro
				85					90					95	
Gly	Phe	Phe	Ala	Leu	Pro	Thr	Lys	Tyr	Gln	Ser	Met	Tyr	Ile	Gln	Thr
			100					105					110		
Ser	Lys	Gly													
		115													

<210> 162  
 <211> 556  
 <212> PRT  
 <213> Chlamydia pneumoniae

Thr	Val	Glu	Leu	Leu	Ser	Leu	Asn	Lys	Ser	Tyr	Phe	Glu	Ile	Gln	Arg
1			5						10					15	
Leu	Arg	Tyr	Arg	Pro	Glu	Ile	Leu	Thr	Leu	Leu	Glu	Thr	Ile	Arg	Ser
			20					25					30		
Lys	His	Ile	Gln	Glu	Thr	Ser	Ser	Pro	Pro	Ser	Pro	Pro	Pro	Glu	Leu
		35					40					45			
Gln	Lys	His	Ile	Pro	Asn	Leu	Cys	Arg	Ile	Pro	Glu	Val	Ser	Ile	Tyr
	50					55					60				
Thr	Glu	Gln	Glu	Thr	Ser	Ser	Lys	Pro	Leu	Lys	Ile	Gly	Val	Leu	Leu
65					70					75					80

Ser Gly Gly Gln Ala Pro Gly Gly His Asn Val Val Ile Gly Leu Phe  
 85 90 95  
 Asp Ala Leu Arg Val Phe Asn Pro Lys Thr Arg Leu Phe Gly Phe Ile  
 100 105 110  
 Lys Gly Pro Leu Gly Leu Thr Arg Gly Leu Tyr Lys Asp Leu Asp Ile  
 115 120 125  
 Ser Val Ile Tyr Asp Tyr Tyr Asn Met Gly Gly Phe Asp Met Leu Ser  
 130 135 140  
 Ser Ser Arg Glu Lys Ile Lys Thr Glu Glu Gln Lys Lys Asn Ile Leu  
 145 150 155 160  
 Asn Thr Val Lys Gln Leu Lys Leu Asp Gly Leu Leu Ile Ile Gly Gly  
 165 170 175  
 Asn Asn Ser Asn Thr Asp Thr Ala Met Leu Ala Glu Tyr Phe Leu Ala  
 180 185 190  
 His Asn Cys Lys Thr Ser Val Ile Gly Val Pro Lys Thr Ile Asp Gly  
 195 200 205  
 Asp Leu Lys Asn Cys Trp Ile Glu Thr Ser Leu Gly Phe His Thr Ser  
 210 215 220  
 Cys Arg Thr Tyr Ser Glu Met Ile Gly Asn Leu Ala Lys Asp Ala Leu  
 225 230 235 240  
 Ser Ala Lys Lys Tyr His His Phe Ile Arg Leu Met Gly Gln Gln Ala  
 245 250 255  
 Ser Tyr Thr Thr Leu Glu Cys Gly Leu Gln Thr Leu Pro Asn Ile Ala  
 260 265 270  
 Leu Ile Ser Glu Leu Ile Ala Thr Arg Lys Ile Ser Leu Lys Gln Leu  
 275 280 285  
 Ser Glu Gln Leu Ala Leu Gly Leu Val Arg Arg Tyr Lys Ser Gly Lys  
 290 295 300  
 Asn Tyr Ser Thr Val Leu Ile Pro Glu Gly Leu Ile Glu His Ile Phe  
 305 310 315 320  
 Asp Thr Arg Lys Leu Ile Asp Glu Leu Asn Val Leu Leu Ala Asn Gly  
 325 330 335  
 Asp Ser Ser Ile Glu Lys Ile Leu Ser Lys Leu Ser Pro Glu Thr Leu  
 340 345 350  
 Lys Thr Phe His Leu Phe Pro Lys Asp Ile Ala Asn Gln Leu Leu Leu  
 355 360 365  
 Ala Arg Asp Ser His Gly Asn Val Arg Val Ser Lys Ile Ala Thr Glu  
 370 375 380  
 Glu Leu Leu Ala Val Met Val Lys Lys Glu Ile Glu Lys Ile Lys Pro  
 385 390 395 400  
 His Met Glu Phe His Ser Val Ser His Phe Phe Gly Tyr Glu Ala Arg  
 405 410 415  
 Ala Gly Phe Pro Ser Asn Phe Asp Cys Asn Tyr Gly Ile Ala Leu Gly  
 420 425 430  
 Ile Ile Ser Ala Leu Phe Leu Val Arg Gln Lys Thr Gly Tyr Met Ile  
 435 440 445  
 Thr Ile Asn Asn Leu Ala Gln Ser Tyr Thr Glu Trp Gln Gly Gly Ala  
 450 455 460  
 Thr Pro Leu Tyr Lys Met Met His Leu Glu Asn Arg Cys Gly Thr Glu  
 465 470 475 480  
 Thr Pro Val Ile Lys Thr Asp Ser Val Asp Pro Lys Ser Pro Ala Val  
 485 490 495  
 Gln His Leu Leu Gln Gln Ser Asp Ser Cys Leu Val Glu Asp Leu Tyr  
 500 505 510  
 Arg Phe Pro Gly Pro Leu Gln Tyr Phe Gly Lys Glu Glu Leu Ile Asp  
 515 520 525  
 Gln Arg Pro Leu Thr Leu Leu Trp Glu Asn Gln Thr His Ser Pro Phe  
 530 535 540  
 Gln Ala Leu Tyr Ser Thr Ser Gly Lys Arg Ser Leu  
 545 550 555

<210> 163  
 <211> 287  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 163  
 His Arg Ser Ser Thr Ser Arg Lys Gln Glu Pro Leu Leu Ile Thr Gly  
 1 5 10 15  
 Val Val Leu Glu Lys His Glu Gln Arg Thr Met Phe Ser Leu Thr Leu  
 20 25 30  
 Leu Asn Asn Phe Thr Thr Phe Gly Leu Leu His Thr Pro Leu His Tyr  
 35 40 45  
 Asn Pro Pro Tyr Pro Ile Val Ile Leu Leu His Gly Leu Ala Ser Asp  
 50 55 60  
 Lys Thr Gly Ser Lys Arg Ser His Val Arg Leu Ala Gln Glu Leu Thr  
 65 70 75 80  
 Arg Leu Gly Ile Ala Ala Leu Arg Val Asp Leu Leu Gly His Gly Asp  
 85 90 95  
 Cys Glu Gly Glu Leu Met Asp Phe Ser Leu Glu Asn Tyr Lys Gln Asn  
 100 105 110  
 Ile Arg Glu Ile Ile Glu Tyr Thr His Ser Leu Leu His Ile Asp Gln  
 115 120 125  
 Glu Arg Leu Ala Ile Phe Gly Ser Ser Leu Gly Gly Thr Leu Ala Leu  
 130 135 140  
 Gln Thr Leu Pro Phe Phe Asn Lys Ile Lys Ala Leu Ala Val Trp Ala  
 145 150 155 160  
 Pro Thr Ile Ser Gly Glu Leu Met Ala Ala Glu Ala Gln Lys Asn Ala  
 165 170 175  
 Pro Glu Val Ile Thr Met Ser Gln Lys Gly Ala Ile Thr Tyr Ala Gly  
 180 185 190  
 Met Thr Leu Asn Pro Asp Phe Tyr Thr Gln Phe Leu Lys Ile Asp Ile  
 195 200 205  
 Val Lys Glu Leu Met Pro Ser Ala Arg Asn Leu Pro Pro Ile Leu Tyr  
 210 215 220  
 Met Gln Gly Glu Gln Asp Leu Leu Val Ser Ile Asn His Arg Thr Leu  
 225 230 235 240  
 Phe Thr Glu Ala Phe Ala Asn Gln Asp Lys Pro Ile Thr Ile Leu Thr  
 245 250 255  
 Tyr Pro Asp Val Asp His Ala Phe Pro Phe Ala Glu Ser Ser Ala Leu  
 260 265 270  
 Ser Asp Leu Thr Gln Trp Leu Lys Arg Glu Leu Thr Ser Gly Glu  
 275 280 285

<210> 164  
 <211> 356  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 164  
 Phe Val Tyr Thr Leu Tyr Asn Ile Gln Ser Pro Phe Arg Ile Met Lys  
 1 5 10 15  
 Leu Tyr Ser Ile Ser Ser Asp Val Asp Thr Pro Trp Ile Phe Gln Leu  
 20 25 30  
 Met Ser Lys Val Asp Ser Tyr Leu Phe Leu Gly Gly Asn Arg Ile Lys  
 35 40 45  
 Val Val Ser Ile Val Met Gln Glu Pro Asn Leu Ile Ile Gly Lys Val  
 50 55 60  
 Glu Asn Val Arg Ile Ser Thr Ile Val Lys Ile Leu Lys Ile Leu Ser  
 65 70 75 80  
 Phe Leu Ile Phe Pro Leu Ile Leu Ile Ala Leu Ala Leu His Tyr Phe  
 85 90 95

Leu His Ala Lys Tyr Ala Asn His Leu Leu Val Ser Lys Ile Leu Glu  
 100 105 110  
 Arg Ala Pro Gln Tyr Val Pro Ile Pro Gly Arg Ser Gly Asp Thr Ala  
 115 120 125  
 Ser His Tyr Lys Leu Thr Thr Leu Val Pro Val Ser Gln Lys Asn Leu  
 130 135 140  
 Gln Ala Met Gly Ser Asn Pro Leu Glu Val Glu Ala Ala Leu Arg Thr  
 145 150 155 160  
 Thr Lys Pro Ser Phe Phe Cys Val Pro Ala Lys Tyr Arg Gln Ile Ile  
 165 170 175  
 Ile Ser Ser His Gly Ile Arg Phe Ser Leu Asp Leu Glu Gln Leu Ala  
 180 185 190  
 Asp Asp Ile Asn Leu Asp Ser Val Ser Trp Pro Thr Glu Tyr Leu Asn  
 195 200 205  
 Ser Thr Met Asp Phe Cys Ser Lys Ala Asp Lys Arg Val Ile Gln Asn  
 210 215 220  
 Val Gln Asn Leu Arg Thr Gly Thr Tyr Ile Asn Ser Val Gly Lys Arg  
 225 230 235 240  
 Ser Leu Leu Lys Phe Met Leu Gln His Leu Phe Ile Asp Gly Ile Thr  
 245 250 255  
 Gln Glu Asn Pro Glu Ala Leu Pro Asn Asn Thr Ser Gly Arg Leu Thr  
 260 265 270  
 Leu Phe Pro Ser Val Arg Tyr Ile Tyr Ser His Phe Thr Pro Gln Asn  
 275 280 285  
 Pro Thr Ile Trp Pro Gln Val Phe Phe Arg Gln Gly Pro Leu Asp Glu  
 290 295 300  
 Asp Arg Gly Gly Gly Phe Glu Ile Leu Glu Gln Leu Gln Glu Leu Gly  
 305 310 315 320  
 Val Arg Phe Pro Ile Cys Pro Ser Gln Gly Pro Asp Asn Pro Asn Phe  
 325 330 335  
 Gln Gly Phe Gln Gly Ile Arg Ile Tyr Trp Glu Asp Ser Tyr Gln Pro  
 340 345 350  
 Asn Lys Glu Val  
 355

<210> 165

<211> 189

<212> PRT

<213> Chlamydia pneumoniae

<400> 165

Phe Glu Lys Ala Ile Val Tyr Cys Ile Lys Cys Lys Gln Ile Ile Lys  
 1 5 10 15  
 Cys Ile Ser Ile Ile His Thr Pro Thr Pro Ala Thr Pro Leu Cys Thr  
 20 25 30  
 Glu Gly Glu Ile Phe Pro Gly Pro Val Asp Ser Ala Ile Gln Asn Asp  
 35 40 45  
 Leu Glu Arg Leu Leu Thr Val Lys Lys Arg Pro Asp Ile Ile Arg Glu  
 50 55 60  
 Tyr Leu Met Arg Ala Gly Gly Ser Leu Val Thr Tyr Pro Lys Glu  
 65 70 75 80  
 Gly Gln Arg Leu Arg Ser Pro Glu Gln Leu Arg Val Leu Asp Asp Leu  
 85 90 95  
 Val Gln Ser Tyr Pro Asn His Leu His Ala Ile Glu Leu Asp Cys Gly  
 100 105 110  
 Ala Ile Pro Gln Asp Leu Ile Gly Ala Thr Tyr Ile Ile Thr Phe Ala  
 115 120 125  
 Asp Phe Ser Thr Tyr Ile Leu Ser Leu Arg Ser Tyr Gln Ala Asn Ser  
 130 135 140  
 Pro Ser Asp Asp Thr Trp Gly Ile Trp Phe Gly Ser Ile Asp Asp Pro  
 145 150 155 160

Val Gln Ala Val Ile Ser Phe Leu Lys Asp His Gly Phe Ala Leu Pro  
165 170 175  
Ser Thr Leu Ala Gln Asp Pro Leu Leu Cys Thr Asn Lys  
180 185

<210> 166  
<211> 185  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 166  
Leu Cys Phe Lys Cys Ile Tyr Ile Lys Ile Ile Phe Ser Phe Leu Lys  
1 5 10 15  
Gln Leu Met Thr Arg Ser Thr Ile Glu Ser Ser Asp Ser Leu Cys Ser  
20 25 30  
Arg Ser Phe Ser Gln Lys Leu Ser Val Gln Thr Leu Lys Asn Leu Cys  
35 40 45  
Glu Ser Arg Leu Met Lys Ile Thr Ser Leu Val Ile Ala Phe Leu Thr  
50 55 60  
Leu Ile Val Gly Gly Ala Leu Ile Ala Leu Ala Gly Gly Gly Val Leu  
65 70 75 80  
Ser Phe Pro Leu Gly Leu Ile Leu Gly Ser Val Leu Val Leu Phe Ser  
85 90 95  
Ser Ile Tyr Leu Val Ser Cys Cys Lys Phe Phe Thr Leu Lys Glu Met  
100 105 110  
Thr Met Thr Cys Ser Val Lys Ser Lys Ile Asn Ile Trp Phe Glu Lys  
115 120 125  
Gln Arg Asn Lys Asp Ile Glu Lys Ala Leu Glu Asn Pro Asp Leu Phe  
130 135 140  
Gly Glu Asn Lys Arg Asn Val Gly Asn Arg Ser Ala Arg Asn Gln Leu  
145 150 155 160  
Glu Met Ile Leu His Glu Thr Asp Gly Ile Ile Leu Lys Arg Tyr Met  
165 170 175  
Lys Gly Ala Lys Met Tyr Phe Tyr Leu  
180 185

<210> 167  
<211> 200  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 167  
Asn Val Leu Leu Phe Met Asn Trp Val Pro Lys Thr Ile Asp His Val  
1 5 10 15  
Asp Pro Glu Ser Glu Ile Asp Ile Arg Lys Val Val Ser Cys Tyr Lys  
20 25 30  
Leu Ile Lys Glu Cys Gln Pro Glu Phe Arg Ser Leu Ile Ser Glu Leu  
35 40 45  
Leu Gly Val Ile Arg Cys Gly Leu Arg Leu Leu Lys Arg Ser Lys Tyr  
50 55 60  
Gln Glu Gln Ala Arg Thr Val Ser Asp Glu Asp Ala Pro Leu Phe Cys  
65 70 75 80  
Leu Thr Arg Ser Tyr Tyr Gln Asp Gly Tyr Leu Thr Pro Leu Arg Ala  
85 90 95  
Gly Pro Arg Asp Leu Ile Asn His Tyr Ile His Leu Arg Arg Arg Glu  
100 105 110  
Asn Pro Lys His Phe Phe Ser Pro Lys His Pro Cys Tyr Tyr Ala Arg  
115 120 125  
Leu Ala Phe Asn Glu Ser Val Cys Val Tyr Arg Glu Leu Phe Asp Ile  
130 135 140

Glu Arg Leu Thr Lys Met Tyr Val Glu Gly Asp Tyr Ser Lys Glu Gln  
 145 150 155 160  
 Glu Lys Asn Leu Gln Ala Ile Leu Ser Phe Val Lys Thr Leu Asp Glu  
 165 170 175  
 Gly Lys Asp Phe Leu Ile Glu His Lys Asp Thr Asp Leu Ile Gly Arg  
 180 185 190  
 Gly Phe Thr Asp Val Phe Cys Thr  
 195 200

<210> 168  
 <211> 123  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 168  
 Asn Cys Leu Lys Gln Tyr Asn Lys Ser Asp Ser Ile Met Ser Glu Ser  
 1 5 10 15  
 Ile Asn Arg Ser Ile His Leu Glu Ala Ser Thr Pro Phe Phe Ile Lys  
 20 25 30  
 Leu Thr Asn Leu Cys Glu Ser Arg Leu Val Lys Ile Thr Ser Leu Val  
 35 40 45  
 Ile Ser Leu Leu Ala Leu Val Gly Ala Gly Val Thr Leu Val Val Leu  
 50 55 60  
 Phe Val Ala Gly Ile Leu Pro Leu Leu Pro Val Leu Ile Leu Glu Ile  
 65 70 75 80  
 Ile Leu Ile Thr Val Leu Val Leu Leu Phe Cys Leu Val Leu Glu Pro  
 85 90 95  
 Tyr Leu Ile Glu Lys Pro Ser Lys Ile Lys Glu Leu Pro Lys Val Asp  
 100 105 110  
 Glu Leu Ser Val Val Glu Thr Asp Ser Thr Leu  
 115 120

<210> 169  
 <211> 111  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 169  
 Asn Leu Trp Ser His Phe Pro Arg Gly Phe Phe Met Leu Pro Phe Cys  
 1 5 10 15  
 Pro Thr Ile Leu Leu Ala Lys Pro Phe Leu Asn Ser Glu Asn Tyr Gly  
 20 25 30  
 Leu Glu Arg Leu Ala Ala Thr Val Asp Ser Tyr Phe Asp Leu Gly Gln  
 35 40 45  
 Ser Gln Ile Val Phe Leu Ser Lys Gln Asp Gln Gly Ile Thr Val Glu  
 50 55 60  
 Glu Leu Ser Ala Lys Asp Arg Lys Phe Lys Pro Gly Ser Met Asn Cys  
 65 70 75 80  
 Thr Leu Tyr Thr Glu Asp Pro Ile Leu Pro Ala His Asn Ser Phe Ser  
 85 90 95  
 Asn Cys Ser Asp Ile Gln Met Arg Thr Pro Ile Ser Pro Ile His  
 100 105 110

<210> 170  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 170  
 Ser Tyr Ile Asn Leu Arg Arg Arg Glu Asn Pro Glu His Phe Phe Asn  
 1 5 10 15



Pro Gly His Pro Cys Tyr Tyr Ala Arg Leu Ala Phe Asn Glu Ser Val  
20 25 30  
Arg Ile Tyr Arg Lys Leu Phe Asn Thr Ala Glu Leu Lys Gln Met Tyr  
35 40 45  
Gly Ala Gly Asp Tyr Glu Gln Asn Glu Asp Asn Leu Lys Ser Ile  
50 55 60  
Leu Ser Phe Val Gln Ile Leu Asp Glu Lys Asp Gly Phe Asp Asp Phe  
65 70 75 80  
Leu Ala Thr His Lys Asp Thr Thr Phe Ile Gly Arg Gly Gly Ala Asp  
85 90 95  
Ile Phe Cys Ser  
100

<210> 171  
<211> 276  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 171  
Ser Phe His Ile Glu Phe Thr Ile Gly Glu Asn Asn Met Lys Asn Val  
1 5 10 15  
Gly Ser Glu Cys Ser Gln Pro Leu Val Met Glu Leu Asn Thr Gln Pro  
20 25 30  
Leu Arg Asn Leu Cys Glu Ser Arg Leu Val Lys Ile Thr Ser Phe Val  
35 40 45  
Ile Ala Leu Leu Ala Leu Val Gly Gly Ile Thr Leu Thr Ala Leu Ala  
50 55 60  
Gly Ala Gly Ile Leu Ser Phe Leu Pro Trp Leu Val Leu Gly Ile Val  
65 70 75 80  
Leu Val Val Leu Cys Ala Leu Phe Leu Leu Phe Ser Tyr Lys Phe Cys  
85 90 95  
Pro Ile Lys Glu Leu Gly Val Val Tyr Asn Thr Asp Ser Gln Ile His  
100 105 110  
Gln Trp Phe Gln Lys Gln Arg Asn Lys Asp Leu Glu Lys Ala Thr Glu  
115 120 125  
Asn Pro Glu Leu Phe Gly Glu Asn Arg Ala Glu Asp Asn Asn Arg Ser  
130 135 140  
Ala Arg Ser Gln Val Lys Glu Thr Leu Arg Asp Cys Asp Gly Asn Val  
145 150 155 160  
Leu Lys Lys Ile Tyr Glu Arg Asn Leu Asp Val Leu Leu Phe Met Asn  
165 170 175  
Trp Val Pro Lys Thr Met Asp Asp Val Asp Pro Val Ser Glu Asp Ser  
180 185 190  
Ile Arg Thr Val Ile Ser Cys Tyr Lys Leu Ile Lys Ala Cys Lys Pro  
195 200 205  
Glu Phe Arg Ser Leu Ile Ser Glu Leu Leu Arg Ala Met Gln Ser Gly  
210 215 220  
Leu Gly Leu Leu Ser Arg Cys Ser Arg Tyr Gln Glu Arg Ala Lys Thr  
225 230 235 240  
Val Ser His Lys Asp Ala Pro Leu Phe Cys Pro Thr His Ser Tyr Tyr  
245 250 255  
Arg Asp Gly Tyr Leu Thr Pro Leu Arg Ala Gly Pro Arg Tyr Ile Ile  
260 265 270  
Asn Arg Ala Ile  
275

<210> 172  
<211> 358  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 172

Asn	Val	Arg	Lys	Asn	His	Ile	Ile	Arg	Gly	Glu	Lys	Tyr	Asn	Thr	Cys
1				5					10					15	
Thr	Val	Ile	Ala	Phe	Val	Leu	Ser	Met	Ser	Tyr	Asp	Thr	Leu	Phe	Lys
			20					25					30		
Asn	Leu	Glu	Lys	Glu	Asp	Ser	Val	His	Lys	Ile	Cys	Asn	Glu	Ile	Phe
	35						40					45			
Ala	Leu	Val	Pro	Arg	Leu	Asn	Thr	Ile	Ala	Cys	Thr	Glu	Ala	Ile	Ile
	50					55					60				
Lys	Asn	Leu	Pro	Lys	Ala	Asp	Ile	His	Val	His	Leu	Pro	Gly	Thr	Ile
65					70					75					80
Thr	Pro	Gln	Leu	Ala	Trp	Ile	Leu	Gly	Val	Lys	Asn	Gly	Phe	Leu	Lys
			85						90					95	
Trp	Ser	Tyr	Asn	Ser	Trp	Thr	Asn	His	Arg	Leu	Leu	Ser	Pro	Lys	Asn
			100					105					110		
Pro	His	Lys	Gln	Tyr	Ser	Asn	Ile	Phe	Arg	Asn	Phe	Gln	Asp	Ile	Cys
		115				120						125			
His	Glu	Lys	Asp	Pro	Asp	Leu	Ser	Val	Leu	Gln	Tyr	Asn	Ile	Leu	Asn
	130					135					140				
Tyr	Asp	Phe	Asn	Ser	Phe	Asp	Arg	Val	Met	Ala	Thr	Val	Gln	Gly	His
145					150					155					160
Arg	Phe	Pro	Pro	Gly	Gly	Ile	Gln	Asn	Glu	Glu	Asp	Leu	Leu	Leu	Ile
			165						170					175	
Phe	Asn	Asn	Tyr	Leu	Gln	Gln	Cys	Leu	Asp	Asp	Thr	Ile	Val	Tyr	Thr
			180					185					190		
Glu	Val	Gln	Gln	Asn	Ile	Arg	Leu	Ala	His	Val	Leu	Tyr	Pro	Ser	Leu
	195						200					205			
Pro	Glu	Lys	His	Ala	Arg	Met	Lys	Phe	Tyr	Gln	Ile	Leu	Tyr	Arg	Ala
	210					215					220				
Ser	Gln	Thr	Phe	Ser	Lys	His	Gly	Ile	Thr	Leu	Arg	Phe	Leu	Asn	Cys
225					230					235					240
Phe	Asn	Lys	Thr	Phe	Ala	Pro	Gln	Ile	Asn	Thr	Gln	Glu	Pro	Ala	Gln
			245						250					255	
Glu	Ala	Val	Gln	Trp	Leu	Gln	Glu	Val	Asp	Ser	Thr	Phe	Pro	Gly	Leu
		260						265					270		
Phe	Val	Gly	Ile	Gln	Ser	Ala	Gly	Ser	Glu	Ser	Ala	Pro	Gly	Ala	Cys
	275						280					285			
Pro	Lys	Arg	Leu	Ala	Ser	Gly	Tyr	Arg	Asn	Ala	Tyr	Asp	Ser	Gly	Phe
	290					295					300				
Gly	Cys	Glu	Ala	His	Ala	Gly	Glu	Gly	Ile	Glu	Thr	Arg	Thr	Ile	Phe
305				310						315					320
Ser	Ser	Ala	Lys	Val	Asn	Pro	Glu	Gly	Leu	Ile	Glu	Ile	Thr	Arg	Val
			325						330					335	
Thr	Phe	Ser	Ser	Leu	Lys	Arg	Lys	Gln	Pro	Ser	Ser	Leu	Pro	Ile	Arg
			340					345					350		
Val	Thr	Cys	Gln	Leu	Gly										
			355												

<210> 173

<211> 432

<212> PRT

<213> Chlamydia pneumoniae

<400> 173

Ile	Ile	Lys	Leu	Gln	Ser	Ala	Arg	Arg	His	Leu	Asn	Thr	Ile	Phe	Ile
1				5					10					15	
Leu	Asp	Phe	Gly	Ser	Gln	Tyr	Thr	Tyr	Val	Leu	Ala	Lys	Gln	Val	Arg
			20					25					30		
Lys	Leu	Phe	Val	Tyr	Cys	Glu	Val	Leu	Pro	Trp	Asn	Ile	Ser	Val	Gln
	35						40					45			

Cys	Leu	Lys	Glu	Arg	Ala	Pro	Leu	Gly	Ile	Ile	Leu	Ser	Gly	Gly	Pro
50						55					60				
His	Ser	Val	Tyr	Glu	Asn	Lys	Ala	Pro	His	Leu	Asp	Pro	Glu	Ile	Tyr
65					70					75					80
Lys	Leu	Gly	Ile	Pro	Ile	Leu	Ala	Ile	Cys	Tyr	Gly	Met	Gln	Leu	Met
				85					90					95	
Ala	Arg	Asp	Phe	Gly	Gly	Thr	Val	Ser	Pro	Gly	Val	Gly	Glu	Phe	Gly
			100					105					110		
Tyr	Thr	Pro	Ile	His	Leu	Tyr	Pro	Cys	Glu	Leu	Phe	Lys	His	Ile	Val
		115					120					125			
Asp	Cys	Glu	Ser	Leu	Asp	Thr	Glu	Ile	Arg	Met	Ser	His	Arg	Asp	His
130						135					140				
Val	Thr	Thr	Ile	Pro	Glu	Gly	Phe	Asn	Val	Ile	Ala	Ser	Thr	Ser	Gln
145					150					155					160
Cys	Ser	Ile	Ser	Gly	Ile	Glu	Asn	Thr	Lys	Gln	Arg	Leu	Tyr	Gly	Leu
				165					170					175	
Gln	Phe	His	Pro	Glu	Val	Ser	Asp	Ser	Thr	Pro	Thr	Gly	Asn	Lys	Ile
			180					185					190		
Leu	Glu	Thr	Phe	Val	Gln	Glu	Ile	Cys	Ser	Ala	Pro	Thr	Leu	Trp	Asn
		195					200					205			
Pro	Leu	Tyr	Ile	Gln	Gln	Asp	Leu	Val	Ser	Lys	Ile	Gln	Asp	Thr	Val
		210				215						220			
Ile	Glu	Val	Phe	Asp	Glu	Val	Ala	Gln	Ser	Leu	Asp	Val	Gln	Trp	Leu
225					230					235					240
Ala	Gln	Gly	Thr	Ile	Tyr	Ser	Asp	Val	Ile	Glu	Ser	Ser	Arg	Ser	Gly
				245					250					255	
His	Ala	Ser	Glu	Val	Ile	Lys	Ser	His	His	Asn	Val	Gly	Gly	Leu	Pro
			260					265					270		
Lys	Asn	Leu	Lys	Leu	Lys	Leu	Val	Glu	Pro	Leu	Arg	Tyr	Leu	Phe	Lys
		275					280					285			
Asp	Glu	Val	Arg	Ile	Leu	Gly	Glu	Ala	Leu	Gly	Leu	Ser	Ser	Tyr	Leu
	290					295					300				
Leu	Asp	Arg	His	Pro	Phe	Pro	Gly	Pro	Gly	Leu	Thr	Ile	Arg	Val	Ile
305					310					315					320
Gly	Glu	Ile	Leu	Pro	Glu	Tyr	Leu	Ala	Ile	Leu	Arg	Arg	Ala	Asp	Leu
				325					330					335	
Ile	Phe	Ile	Glu	Glu	Leu	Arg	Lys	Ala	Lys	Leu	Tyr	Asp	Lys	Ile	Ser
			340					345					350		
Gln	Ala	Phe	Ala	Leu	Phe	Leu	Pro	Ile	Lys	Ser	Val	Ser	Val	Lys	Gly
		355					360					365			
Asp	Cys	Arg	Ser	Tyr	Gly	Tyr	Thr	Ile	Ala	Leu	Arg	Ala	Val	Glu	Ser
	370					375					380				
Thr	Asp	Phe	Met	Thr	Gly	Arg	Trp	Ala	Tyr	Leu	Pro	Cys	Asp	Val	Leu
385					390					395					400
Ser	Ser	Cys	Ser	Ser	Arg	Ile	Ile	Asn	Glu	Ile	Pro	Glu	Val	Ser	Arg
				405					410					415	
Val	Val	Tyr	Asp	Ile	Ser	Asp	Lys	Pro	Pro	Ala	Thr	Ile	Glu	Trp	Glu
			420					425					430		

<210> 174

<211> 266

<212> PRT

<213> Chlamydia pneumoniae

<400> 174

Ala	Pro	Ile	Gly	Ala	Ala	Ile	Gly	Ile	Gly	Pro	Leu	Gly	Ile	Ser	Arg
1				5					10					15	
Ala	His	His	Leu	Val	Glu	Ala	Gly	Ala	Asn	Val	Leu	Val	Ile	Asp	Thr
			20					25					30		
Ala	His	Ala	His	Ser	Lys	Gly	Val	Phe	Gln	Thr	Val	Leu	Glu	Ile	Lys
		35					40					45			

Ser Gln Phe Pro Gln Ile Ser Leu Val Val Gly Asn Leu Val Thr Ala  
 50 55 60  
 Glu Ala Ala Val Ser Leu Ala Glu Ile Gly Val Asp Ala Val Lys Val  
 65 70 75 80  
 Gly Ile Gly Pro Gly Ser Ile Cys Thr Thr Arg Ile Val Ser Gly Val  
 85 90 95  
 Gly Tyr Pro Gln Ile Thr Ala Ile Thr Asn Val Ala Lys Ala Leu Lys  
 100 105 110  
 Asn Ser Ala Val Thr Val Ile Ala Asp Gly Arg Ile Arg Tyr Ser Gly  
 115 120 125  
 Asp Val Val Lys Ala Leu Ala Ala Gly Ala Asp Cys Val Met Leu Gly  
 130 135 140  
 Ser Leu Leu Ala Gly Thr Asp Glu Ala Pro Gly Asp Ile Val Ser Ile  
 145 150 155 160  
 Asp Glu Lys Leu Phe Lys Arg Tyr Arg Gly Met Gly Ser Leu Gly Ala  
 165 170 175  
 Met Lys Gln Gly Ser Ala Asp Arg Tyr Phe Gln Thr Gln Gly Gln Lys  
 180 185 190  
 Lys Leu Val Pro Gly Gly Val Glu Gly Leu Val Ala Tyr Lys Gly Ser  
 195 200 205  
 Val His Asp Val Leu Tyr Gln Ile Leu Gly Gly Ile Arg Ser Gly Met  
 210 215 220  
 Gly Tyr Val Gly Ala Glu Thr Leu Lys Asp Leu Lys Thr Lys Ala Ser  
 225 230 235 240  
 Phe Val Arg Ile Thr Glu Ser Gly Arg Ala Glu Ser His Ile His Asn  
 245 250 255  
 Ile Tyr Lys Val Gln Pro Thr Leu Asn Tyr  
 260 265

<210> 175  
 <211> 109  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 175  
 Thr Ile Phe Asp Leu Ile Tyr Lys Ile Asp Ser Tyr Lys His Gln Gln  
 1 5 10 15  
 Gly Phe Met Asp Phe Ser Val Phe Pro Asp Arg Phe Val Glu Ser Thr  
 20 25 30  
 Ser Pro Ser Pro Ile Glu Asp Ile Asp Ala Lys Thr Leu Val Ser Asn  
 35 40 45  
 Cys Cys His Tyr Cys Ser Arg Cys Leu Phe Ile Phe Leu Ser Leu Leu  
 50 55 60  
 Ser Ile Ile Ile Cys Phe Ser Val Tyr Gly Thr Ser Gly Glu Thr Ala  
 65 70 75 80  
 Ser Leu Val Phe Gly Ile Leu Ser Leu Ile Val Leu Val Leu Leu Ile  
 85 90 95  
 Ile Glu Cys Arg Asn Arg Glu Cys Cys Arg Arg Ile Ser  
 100 105

<210> 176  
 <211> 170  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 176  
 Lys Ile Phe Ile Trp Phe Val Glu Lys Ile Val Ile Leu Ser Met Ile  
 1 5 10 15  
 Met Thr Thr Ile Ser Asn Ser Pro Ser Pro Ala Leu Asn Pro Glu Leu  
 20 25 30

Ser Leu Ile Pro Pro Pro Thr Leu Val Ser Ser Gly Thr Gln Thr Ser  
           35                  40                  45  
 Leu Ala Tyr Thr Ile Pro Ala Gln Gly Arg Arg Ser Thr Leu Arg Ile  
       50                  55                  60  
 Ile Leu Asp Ile Phe Ile Ile Leu Gly Leu Ala Thr Ile Ile Ser  
 65                  70                  75                  80  
 Thr Phe Ile Val Ile Phe Phe Leu Asn Gly Leu Asn Leu Leu Ser Thr  
                   85                  90                  95  
 Pro Ser Ile Ile Ser Ser Ser Cys Leu Ile Ile Val Gly Leu Leu Phe  
                   100                  105                  110  
 Leu Ile Met Gly Leu Tyr Phe Met Ile Ser Ser Leu Asp Gln Gly Leu  
       115                  120                  125  
 Val Gly Leu Leu Gln Lys Glu Leu Ser Gln Ala Glu Glu Arg Glu Glu  
       130                  135                  140  
 Glu Tyr Ile Gln Glu Ile Glu Ala Leu Arg Gly Ala Pro Arg Ala Glu  
 145                  150                  155                  160  
 Ser Pro Thr Glu Ser Pro Ser Thr Trp Leu  
                   165                  170

<210> 177

<211> 140

<212> PRT

<213> Chlamydia pneumoniae

<400> 177

Leu Leu Leu Ala Cys Phe Gln Phe Leu Leu Arg Arg Arg Asp Met Glu  
 1                  5                  10                  15  
 Gln Pro Asn Cys Val Ile Gln Asp Thr Thr Thr Val Leu Tyr Ala Leu  
       20                  25                  30  
 Asn Ser Phe Asp Pro Arg Leu Ser Asp Asp Thr His Arg Leu Gly Lys  
       35                  40                  45  
 Gln Ser Pro Leu Glu Ala Glu Asn Ala Leu Gly Glu Phe Ile Glu Gly  
       50                  55                  60  
 Leu Asp Thr Asn Ser Phe Pro Leu Glu Glu Val Ala Ile Pro Ile Leu  
 65                  70                  75                  80  
 Pro Gly Tyr His Pro Lys Phe Tyr Leu Ser Phe Ile Asp Arg Asp Asp  
                   85                  90                  95  
 Gln Gly Val His Tyr Glu Val Leu Asp Gly Val Phe Leu Lys Thr Val  
                   100                  105                  110  
 Ala Ala Cys Ile Ile Glu Asn Ser Phe Leu Thr Asp Ser Met Ser Pro  
       115                  120                  125  
 Glu Leu Leu Ser Glu Val Lys Glu Ala Leu Lys Arg  
       130                  135                  140

<210> 178

<211> 416

<212> PRT

<213> Chlamydia pneumoniae

<400> 178

Asn Asp Asp Asp Pro Met Asp Glu Ser Asp Gly Glu Glu Ala Ser Lys  
 1                  5                  10                  15  
 Asp Ser Ala Phe Ser Ala Ser Phe Ser Tyr Glu Phe Val Lys Ser Ser  
       20                  25                  30  
 Thr Arg Glu Ser Lys Asn Thr Val Thr His Ser Thr Ala Ser Arg Thr  
       35                  40                  45  
 Leu Tyr Ile Leu Arg Gln Asp Cys Ser Tyr Asp Pro Arg Ala Leu Lys  
       50                  55                  60  
 Val Asp Asp Glu Phe Arg Tyr Trp Val Glu Lys Arg Leu Asp Ala Lys  
 65                  70                  75                  80

Asn	Pro	Asp	Ser	Leu	Asn	Ala	Phe	Val	Lys	Glu	Val	Gly	Thr	His	Tyr		
				85					90					95			
Val	Ala	Ser	Val	Thr	Tyr	Gly	Gly	Ile	Gly	Phe	Gln	Val	Leu	Lys	Met		
			100					105						110			
Ser	Tyr	Leu	Gln	Val	Glu	Glu	Leu	Glu	Lys	Glu	Lys	Ile	Ser	Ile	Ser		
			115					120						125			
Val	Ala	Ala	Ala	Ser	Ser	Leu	Leu	Lys	Ser	Lys	Thr	Ser	Asn	Ala	Thr		
			130					135						140			
Glu	Lys	Gly	Tyr	Ser	Ser	Tyr	Gln	Ser	Glu	Ser	Ser	Ala	Gln	Thr	Val		
145						150					155				160		
Phe	Leu	Gly	Gly	Thr	Val	Leu	Pro	Asp	Leu	Gln	Gln	Asp	Lys	Leu	Asp		
				165					170						175		
Phe	Lys	Asp	Trp	Ser	Glu	Ser	Ile	Pro	Asn	Glu	Pro	Ile	Pro	Leu	Ala		
			180					185						190			
Ile	Ser	Val	Ser	Ser	Ile	Thr	Asp	Leu	Ile	Ile	Pro	Glu	Leu	Phe	Pro		
			195				200							205			
Ser	Glu	Asp	Ala	Gln	Val	Leu	Ser	Gln	Lys	Lys	Ser	Ala	Leu	Gly	Gln		
			210					215						220			
Val	Ile	Leu	Asn	Tyr	Leu	Glu	Ser	His	Lys	Pro	Lys	Glu	Glu	Gly	Pro		
225					230					235					240		
Lys	Pro	Val	Gln	Ile	Thr	Ser	Gly	Phe	Asn	Ser	Ser	Ser	Ser	Val	Phe		
			245						250						255		
Thr	Leu	Gln	Ala	Ala	Lys	Ala	Pro	Lys	Thr	Val	Ser	Phe	Pro	Tyr	Ile		
			260					265						270			
Asp	Tyr	Trp	Ser	Thr	Ile	Pro	Tyr	Leu	Phe	Pro	Thr	Leu	Lys	Glu	Thr		
			275				280							285			
Ser	Gly	Ala	Gln	Pro	Leu	Ser	Phe	Tyr	Leu	Arg	Phe	Asp	Asp	Ile	Phe		
			290				295					300					
Glu	Gln	Gln	Asn	Leu	Val	His	Asn	Thr	Ser	Tyr	Ile	Leu	Ala	Ser	Thr		
305					310					315					320		
Ser	Val	Arg	Leu	Gly	Tyr	Phe	Gly	Asp	Ser	Tyr	Arg	Asp	Tyr	Asp	Ala		
			325						330					335			
Leu	Ser	Phe	Tyr	Gly	Ser	Trp	Pro	Gln	Ala	Tyr	Phe	Asp	Trp	Ala	Gly		
			340					345						350			
Tyr	Lys	Asp	Arg	Cys	Thr	Trp	Thr	Leu	Glu	Lys	Leu	Asn	Thr	Thr	Gly		
			355					360						365			
Asp	Leu	Phe	Ile	Arg	Ser	Gly	Asp	Glu	Ile	Arg	Leu	Lys	His	Asn	Thr		
			370			375						380					
Ser	Gly	Lys	Tyr	Leu	Ala	Thr	Thr	Ser	Met	Ser	Asp	Gly	Tyr	Gln	Lys		
385					390					395					400		
Leu	Thr	Cys	Thr	Thr	Gln	Thr	Ser	Asp	Ser	Val	Phe	Ile	Ile	Thr	Val		
				405					410						415		

<210> 179

<211> 302

<212> PRT

<213> Chlamydia pneumoniae

<400> 179

Asp	Lys	Arg	Glu	Gln	Thr	Lys	Ser	Lys	Phe	Ile	Phe	Leu	Ile	Ser	Glu		
1				5					10					15			
Glu	Ser	Met	Lys	Gln	Pro	Met	Ser	Leu	Ile	Phe	Ser	Ser	Val	Cys	Leu		
			20					25					30				
Gly	Leu	Gly	Leu	Gly	Ser	Leu	Ser	Ser	Cys	Asn	Gln	Lys	Pro	Ser	Trp		
			35					40					45				
Asn	Tyr	His	Asn	Thr	Ser	Thr	Ser	Glu	Glu	Phe	Phe	Val	His	Gly	Asn		
			50			55					60						
Lys	Ser	Val	Ser	Gln	Leu	Pro	His	Tyr	Pro	Ser	Ala	Phe	Arg	Thr	Thr		
65					70					75					80		
Gln	Ile	Phe	Ser	Glu	Glu	His	Asn	Asp	Pro	Tyr	Val	Val	Ala	Lys	Thr		
				85					90						95		

Asp Glu Glu Ser Arg Lys Ile Trp Arg Glu Ile His Lys Asn Leu Lys  
 100 105 110  
 Ile Lys Gly Ser Tyr Ile Pro Ile Ser Thr Tyr Gly Ser Leu Met His  
 115 120 125  
 Pro Lys Ser Ala Ala Leu Thr Leu Lys Thr Tyr Arg Pro His Pro Ile  
 130 135 140  
 Trp Ile Asn Gly Tyr Glu Arg Ser Phe Asn Ile Asp Thr Gly Lys Tyr  
 145 150 155 160  
 Leu Lys Asn Gly Ser Arg Arg Arg Thr Ser His Asp Gly Pro Lys Asn  
 165 170 175  
 Arg Ala Val Leu Asn Leu Ile Lys Ser Ser Gly Arg Arg Cys Asn Ala  
 180 185 190  
 Ile Gly Leu Glu Met Thr Glu Glu Asp Phe Val Ile Ala Arg Arg Arg  
 195 200 205  
 Glu Gly Val Tyr Ser Leu Tyr Pro Val Glu Val Cys Ser Tyr Pro Gln  
 210 215 220  
 Gly Asn Pro Phe Val Ile Ala Tyr Ala Trp Ile Ala Asp Glu Ser Ala  
 225 230 235 240  
 Cys Ser Lys Glu Val Leu Pro Val Lys Gly Tyr Tyr Ser Leu Val Trp  
 245 250 255  
 Glu Ser Val Ser Ser Ser Asp Ser Leu Asn Ala Phe Gly Asp Ser Phe  
 260 265 270  
 Ala Glu Asp Tyr Leu Arg Ser Thr Phe Leu Ala Asn Gly Thr Ser Ile  
 275 280 285  
 Leu Cys Val His Glu Ser Tyr Lys Lys Val Pro Pro Gln Pro  
 290 295 300

<210> 180  
 <211> 88  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 180  
 Val Lys Glu Tyr Leu Asp Phe Leu Val Gln Arg Asn Val Glu Arg Asp  
 1 5 10 15  
 Pro Gln Thr Lys Arg His Cys Thr Val Ser Gln Lys Phe Gly Gly Glu  
 20 25 30  
 Ser Ile Asp Ala Lys Thr Thr Thr Gly Gln Leu Phe His Ile Ala Gly  
 35 40 45  
 Lys Thr Glu Pro Gly His Gly Lys Leu Cys Leu Gly Glu Ser Ile Leu  
 50 55 60  
 Lys Gln Leu Leu Ala Leu Gly Ile Ile Thr Gly Tyr Glu Asn Arg Glu  
 65 70 75 80  
 Arg Glu Val Trp Val Tyr Leu Asp  
 85

<210> 181  
 <211> 165  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 181  
 Pro Lys Ile Trp Asp Thr His Phe Glu Thr Arg Ile Glu Ala Thr Ser  
 1 5 10 15  
 Val Pro Lys Phe Asn Arg Arg Leu Arg Lys Ser Phe His Lys Ser Gly  
 20 25 30  
 Arg Ser Ser Arg Pro Ser Lys Ala Cys Val Ala Asn Phe Phe Asn Phe  
 35 40 45  
 Thr Leu Gln Ala Gly Arg Ser Gly Ile Ile Pro Gly Lys Lys Ala Ile  
 50 55 60

Leu Leu Asn Val Asn Asp Ala Lys Thr Pro Asn Tyr Ser Cys Ile Phe  
 65 70 75 80  
 Glu Ser Ile Gly Phe Phe Asn Glu Gln Asp Leu Glu Ala Gln His Asn  
 85 90 95  
 Gln Gln Ala Ala Leu Val Arg Lys Ile Leu Lys Val Val Pro His His  
 100 105 110  
 Phe Leu Lys Gly Leu Ile Ala Lys Leu Pro Arg Ser Leu Lys Lys Asp  
 115 120 125  
 Arg Lys Phe Met Ser Ser Leu Ile Phe Thr Lys Leu Ser Tyr Ala Leu  
 130 135 140  
 Asp Leu Ser Ala Pro Met His Leu Glu Gly Lys Pro Asn Leu Ser Tyr  
 145 150 155 160  
 Glu Glu Lys Leu Asp  
 165

<210> 182

<211> 203

<212> PRT

<213> Chlamydia pneumoniae

<400> 182

Thr Ser Leu His Lys Ile Leu Asp Cys Lys Tyr Lys Pro Val Phe Ile  
 1 5 10 15  
 Gln Asn Thr Val Ala Ser Glu Thr Tyr Pro Ser Gln Ile Leu His Ala  
 20 25 30  
 Gln Arg Glu Val Arg Asp Ala Tyr Phe Asn Gln Ala Asp Cys His Pro  
 35 40 45  
 Ala Arg Ala Asn Gln Ile Leu Glu Ala Lys Lys Ile Cys Leu Leu Asp  
 50 55 60  
 Val Tyr His Thr Asn His Tyr Ser Val Phe Thr Phe Cys Val Asp Asn  
 65 70 75 80  
 Tyr Pro Asn Leu Arg Phe Thr Phe Val Ser Ser Lys Asn Asn Glu Met  
 85 90 95  
 Asn Gly Leu Ser Asn Pro Leu Asp Asn Val Leu Val Glu Ala Met Val  
 100 105 110  
 Arg Arg Thr His Ala Arg Asn Leu Ala Ala Cys Lys Ile Arg Asn  
 115 120 125  
 Ile Glu Val Pro Arg Val Val Gly Leu Asp Leu Arg Ser Gly Ile Leu  
 130 135 140  
 Ile Ser Lys Leu Glu Leu Lys Gln Pro Gln Phe Gln Ser Leu Thr Glu  
 145 150 155 160  
 Asp Phe Val Asn His Ser Thr Asn Gln Glu Glu Ala Arg Val His Gln  
 165 170 175  
 Lys His Val Leu Leu Ile Ser Leu Ile Leu Leu Cys Lys Gln Ala Val  
 180 185 190  
 Leu Glu Ser Phe Gln Glu Lys Lys Arg Ser Ser  
 195 200

<210> 183

<211> 133

<212> PRT

<213> Chlamydia pneumoniae

<400> 183

Val His Glu Leu Phe Lys Ile Asp Gly Val Tyr Tyr Phe Phe Lys Lys  
 1 5 10 15  
 Phe Met Lys Leu Phe Tyr Asn Asn Tyr Ser Leu Asn Ser His His Glu  
 20 25 30  
 Lys Pro Ser Ser Leu Glu Lys Ala Val Gln Ala Leu Asp Ser Tyr Phe  
 35 40 45



Tyr Trp Gly Gly Asp Thr Thr Asp Val Leu Ala Arg Asp Asp Ile Ser  
 50 55 60  
 Arg Glu Ile Tyr Cys Val Arg Arg Leu Tyr Ile Arg Phe Trp Ile Val  
 65 70 75 80  
 Ser Ile Ser Gln Ser Leu Ser Arg Ile Pro Trp Arg Leu Lys Arg Ile  
 85 90 95  
 Leu Leu Arg Tyr Cys Thr Leu Arg Gly Lys Tyr Val Met Pro Ile Leu  
 100 105 110  
 Ile Lys Arg Ile Ala Ile Leu Leu Gly Leu Ile Arg Phe Ser Arg Leu  
 115 120 125  
 Arg Lys Ser Val Tyr  
 130

<210> 184

<211> 457

<212> PRT

<213> Chlamydia pneumoniae

<400> 184

Arg Cys Ile Met Lys Lys Val Leu Ile Ala Asn Arg Gly Glu Ile Ala  
 1 5 10 15  
 Val Arg Ile Ile Arg Ala Cys His Asp Leu Gly Leu Ser Thr Val Ala  
 20 25 30  
 Val Tyr Ser Leu Ala Asp Gln Glu Ala Leu His Val Leu Leu Ala Asp  
 35 40 45  
 Glu Ala Ile Cys Ile Gly Glu Pro Gln Ala Ala Lys Ser Tyr Leu Lys  
 50 55 60  
 Ile Ser Asn Ile Leu Ala Cys Glu Ile Thr Gly Ala Asp Ala Val  
 65 70 75 80  
 His Pro Gly Tyr Gly Phe Leu Ser Glu Asn Ala Asn Phe Ala Ser Ile  
 85 90 95  
 Cys Glu Ser Cys Gly Leu Thr Phe Ile Gly Pro Ser Ser Glu Ser Ile  
 100 105 110  
 Ala Met Met Gly Asp Lys Ile Ala Ala Lys Ser Leu Ala Lys Lys Ile  
 115 120 125  
 Lys Cys Pro Val Ile Pro Gly Ser Glu Gly Ile Ile Glu Asp Glu Ser  
 130 135 140  
 Glu Gly Leu Lys Ile Ala Glu Lys Ile Gly Phe Pro Ile Val Ile Lys  
 145 150 155 160  
 Ala Val Ala Gly Gly Gly Gly Arg Gly Ile Arg Ile Val Lys Glu Lys  
 165 170 175  
 Asp Glu Phe Tyr Arg Ala Phe Ser Ala Ala Arg Ala Glu Ala Glu Ala  
 180 185 190  
 Gly Phe Asn Asn Pro Asn Val Tyr Ile Glu Lys Phe Ile Glu Asn Pro  
 195 200 205  
 Arg His Leu Glu Ile Gln Val Ile Gly Asp Thr His Gly Asn Tyr Val  
 210 215 220  
 His Leu Gly Glu Arg Asp Cys Thr Ile Gln Arg Arg Arg Gln Lys Leu  
 225 230 235 240  
 Ile Glu Glu Thr Pro Ser Pro Ile Leu Asn Ala Glu Ile Arg Val Lys  
 245 250 255  
 Val Gly Lys Val Ala Val Asp Leu Ala Arg Ser Ala Gly Tyr Phe Ser  
 260 265 270  
 Val Gly Thr Val Glu Phe Leu Leu Asp Lys Asp Lys Lys Phe Tyr Phe  
 275 280 285  
 Met Glu Met Asn Thr Arg Ile Gln Val Glu His Thr Ile Thr Glu Glu  
 290 295 300  
 Val Thr Gly Ile Asp Leu Val Lys Glu Gln Ile His Val Ala Met Gly  
 305 310 315 320  
 Asn Lys Leu Pro Trp Lys Gln Lys Asn Ile Glu Phe Ser Gly His Ile  
 325 330 335

Ile Gln Cys Arg Ile Asn Ala Glu Asp Pro Thr Asn Asn Phe Ser Pro  
                   340                  345                  350  
 Ser Pro Gly Arg Leu Asp Tyr Tyr Leu Pro Pro Ala Gly Pro Ser Ile  
                   355                  360                  365  
 Arg Val Asp Gly Ala Cys Tyr Ser Gly Tyr Ala Ile Pro Pro Tyr Tyr  
                   370                  375                  380  
 Asp Ser Met Ile Ala Lys Val Ile Ala Lys Gly Lys Asn Arg Glu Glu  
                   385                  390                  395                  400  
 Ala Ile Ala Ile Met Lys Arg Ala Leu Lys Glu Phe His Ile Gly Gly  
                   405                  410                  415  
 Val Gln Ser Thr Ile Pro Phe His Gln Phe Met Leu Asp Asn Pro Lys  
                   420                  425                  430  
 Phe Leu Glu Ser Asn Tyr Asp Ile Asn Tyr Ile Asp Asn Leu Leu Ala  
                   435                  440                  445  
 Gln Gly Asn Ser Phe Phe Lys Glu Phe  
                   450                  455

<210> 185

<211> 171

<212> PRT

<213> Chlamydia pneumoniae

<400> 185

Arg Arg Leu Gly Met Asp Leu Lys Gln Ile Glu Lys Leu Met Ile Ala  
   1                  5                  10                  15  
 Met Gly Arg Asn Gly Met Lys Arg Phe Ala Ile Lys Arg Glu Gly Leu  
                   20                  25                  30  
 Glu Leu Glu Leu Glu Arg Asp Thr Arg Glu Gly Asn Arg Gln Glu Pro  
                   35                  40                  45  
 Val Phe Tyr Asp Ser Arg Leu Phe Ser Gly Phe Ser Gln Glu Arg Pro  
                   50                  55                  60  
 Ile Pro Thr Asp Pro Lys Lys Asp Thr Ile Lys Glu Thr Thr Thr Glu  
                   65                  70                  75                  80  
 Asn Ser Glu Thr Ser Thr Thr Thr Ser Ser Gly Asp Phe Ile Ser Ser  
                   85                  90                  95  
 Pro Leu Val Gly Thr Phe Tyr Gly Ser Pro Ala Pro Asp Ser Pro Ser  
                   100                  105                  110  
 Phe Val Lys Pro Gly Asp Ile Val Ser Glu Asp Thr Ile Val Cys Ile  
                   115                  120                  125  
 Val Glu Ala Met Lys Val Met Asn Glu Val Lys Ala Gly Met Ser Gly  
                   130                  135                  140  
 Arg Val Leu Glu Val Leu Ile Thr Asn Gly Asp Pro Val Gln Phe Gly  
                   145                  150                  155                  160  
 Ser Lys Leu Phe Arg Ile Ala Lys Asp Ala Ser  
                   165                  170

<210> 186

<211> 198

<212> PRT

<213> Chlamydia pneumoniae

<400> 186

Gln Trp Lys Ile Lys Phe Cys Cys Cys Glu Glu Lys Ile Met Val Leu  
   1                  5                  10                  15  
 Ser Ser Gln Leu Ser Val Gly Met Phe Ile Ser Thr Lys Asp Gly Leu  
                   20                  25                  30  
 Tyr Lys Val Thr Ser Val Ser Lys Val Ala Gly Pro Lys Gly Glu Ser  
                   35                  40                  45  
 Phe Ile Lys Val Ala Leu Gln Ala Ala Asp Ser Asp Val Val Ile Glu  
                   50                  55                  60

Arg Asn Phe Lys Ala Thr Gln Glu Val Lys Glu Ala Gln Phe Glu Thr  
 65 70 75 80  
 Arg Thr Leu Glu Tyr Leu Tyr Leu Glu Asp Glu Ser Tyr Leu Phe Leu  
 85 90 95  
 Asp Leu Gly Asn Tyr Glu Lys Leu Phe Ile Pro Gln Glu Ile Met Lys  
 100 105 110  
 Asp Asn Phe Leu Phe Leu Lys Ala Gly Val Thr Val Ser Ala Met Val  
 115 120 125  
 Tyr Asp Asn Val Val Phe Ser Val Glu Leu Pro His Phe Leu Glu Leu  
 130 135 140  
 Met Val Ser Lys Thr Asp Phe Pro Gly Asp Ser Leu Ser Leu Ser Gly  
 145 150 155 160  
 Gly Val Lys Lys Ala Leu Leu Glu Thr Gly Ile Glu Val Met Val Pro  
 165 170 175  
 Pro Phe Val Glu Ile Gly Asp Val Ile Lys Ile Asp Thr Arg Thr Cys  
 180 185 190  
 Glu Tyr Ile Gln Arg Val  
 195

<210> 187  
 <211> 231  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 187  
 Ala Glu Val Lys Lys Gln Glu Ser Val Leu Val Gly Pro Ser Ile Met  
 1 5 10 15  
 Gly Ala Asp Leu Thr Cys Leu Gly Val Glu Ala Lys Lys Leu Glu Gln  
 20 25 30  
 Ala Gly Ser Asp Phe Ile His Ile Asp Ile Met Asp Gly His Phe Val  
 35 40 45  
 Pro Asn Leu Thr Phe Gly Pro Gly Ile Ile Ala Ala Ile Asn Arg Ser  
 50 55 60  
 Thr Asp Leu Phe Leu Glu Val His Ala Met Ile Tyr Asn Pro Phe Glu  
 65 70 75 80  
 Phe Ile Glu Ser Phe Val Arg Ser Gly Ala Asp Arg Ile Ile Val His  
 85 90 95  
 Phe Glu Ala Ser Glu Asp Ile Lys Glu Leu Leu Ser Tyr Ile Lys Lys  
 100 105 110  
 Cys Gly Val Gln Ala Gly Leu Ala Phe Ser Pro Asp Thr Ser Ile Glu  
 115 120 125  
 Phe Leu Pro Ser Phe Leu Pro Phe Cys Asp Val Val Leu Met Ser  
 130 135 140  
 Val Tyr Pro Gly Phe Thr Gly Gln Ser Phe Leu Pro Asn Thr Ile Glu  
 145 150 155 160  
 Lys Ile Ala Phe Ala Arg His Ala Ile Lys Thr Leu Gly Leu Lys Asp  
 165 170 175  
 Ser Cys Leu Ile Glu Val Asp Gly Gly Ile Asp Gln Gln Ser Ala Pro  
 180 185 190  
 Leu Cys Arg Asp Ala Gly Ala Asp Ile Leu Val Thr Ala Ser Tyr Leu  
 195 200 205  
 Phe Glu Ala Asp Ser Leu Ala Met Glu Asp Lys Ile Leu Leu Leu Arg  
 210 215 220  
 Gly Glu Asn Tyr Gly Val Lys  
 225 230

<210> 188  
 <211> 397  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 188

Pro	Ile	Lys	Asp	Lys	Ile	Leu	Met	Ser	Ser	Pro	Val	Asn	Asn	Thr	Pro
1				5					10					15	
Ser	Ala	Pro	Asn	Ile	Pro	Ile	Pro	Ala	Pro	Thr	Thr	Pro	Gly	Ile	Pro
			20					25					30		
Thr	Thr	Lys	Pro	Arg	Ser	Ser	Phe	Ile	Glu	Lys	Val	Ile	Ile	Val	Ala
		35					40					45			
Lys	Tyr	Ile	Leu	Phe	Ala	Ile	Ala	Ala	Thr	Ser	Gly	Ala	Leu	Gly	Thr
	50					55					60				
Ile	Leu	Gly	Leu	Ser	Gly	Ala	Leu	Thr	Pro	Gly	Ile	Gly	Ile	Ala	Leu
65					70					75				80	
Leu	Val	Ile	Phe	Phe	Val	Ser	Met	Val	Leu	Leu	Gly	Leu	Ile	Leu	Lys
			85					90					95		
Asp	Ser	Ile	Ser	Gly	Gly	Glu	Glu	Arg	Arg	Leu	Arg	Glu	Glu	Val	Ser
			100					105					110		
Arg	Phe	Thr	Ser	Glu	Asn	Gln	Arg	Leu	Thr	Val	Ile	Thr	Thr	Thr	Leu
		115				120						125			
Glu	Thr	Glu	Val	Lys	Asp	Leu	Lys	Ala	Ala	Lys	Asp	Gln	Leu	Thr	Leu
	130					135					140				
Glu	Ile	Glu	Ala	Phe	Arg	Asn	Glu	Asn	Gly	Asn	Leu	Lys	Thr	Thr	Ala
145				150						155					160
Glu	Asp	Leu	Glu	Glu	Gln	Val	Ser	Lys	Leu	Ser	Glu	Gln	Leu	Glu	Ala
				165					170					175	
Leu	Glu	Arg	Ile	Asn	Gln	Leu	Ile	Gln	Ala	Asn	Ala	Gly	Asp	Ala	Gln
			180					185					190		
Glu	Ile	Ser	Ser	Glu	Leu	Lys	Lys	Leu	Ile	Ser	Gly	Trp	Asp	Ser	Lys
	195					200						205			
Val	Val	Glu	Gln	Ile	Asn	Thr	Ser	Ile	Gln	Ala	Leu	Lys	Val	Leu	Leu
	210					215						220			
Gly	Gln	Glu	Trp	Val	Gln	Glu	Ala	Gln	Thr	His	Val	Lys	Ala	Met	Gln
225					230					235					240
Glu	Gln	Ile	Gln	Ala	Leu	Gln	Ala	Glu	Ile	Leu	Gly	Met	His	Asn	Gln
				245					250					255	
Ser	Thr	Ala	Leu	Gln	Lys	Ser	Val	Glu	Asn	Leu	Leu	Val	Gln	Asp	Gln
			260					265					270		
Ala	Leu	Thr	Arg	Val	Val	Gly	Glu	Leu	Glu	Ser	Glu	Asn	Lys	Leu	
		275				280						285			
Ser	Gln	Ala	Cys	Ser	Ala	Leu	Arg	Gln	Glu	Ile	Glu	Lys	Leu	Ala	Gln
	290					295					300				
His	Glu	Thr	Ser	Leu	Gln	Gln	Arg	Ile	Asp	Ala	Met	Leu	Ala	Gln	Glu
305					310					315					320
Gln	Asn	Leu	Ala	Glu	Gln	Val	Thr	Ala	Leu	Glu	Lys	Met	Lys	Gln	Glu
				325					330					335	
Ala	Gln	Lys	Ala	Glu	Ser	Glu	Phe	Ile	Ala	Cys	Val	Arg	Asp	Arg	Thr
			340					345					350		
Phe	Gly	Arg	Arg	Glu	Thr	Pro	Pro	Pro	Thr	Thr	Pro	Val	Val	Glu	Gly
		355				360						365			
Asp	Glu	Ser	Gln	Glu	Glu	Asp	Glu	Gly	Gly	Thr	Pro	Pro	Val	Ser	Gln
	370					375					380				
Pro	Ser	Ser	Pro	Val	Asp	Arg	Ala	Thr	Gly	Asp	Gly	Gln			
385					390					395					

<210> 189

<211> 276

<212> PRT

<213> Chlamydia pneumoniae

<400> 189

Val	Phe	Leu	Thr	Tyr	Thr	Arg	Thr	Leu	Pro	Met	His	Ser	Lys	Phe	Leu
1				5					10					15	

Ser Arg Arg Lys Lys Asn Ser Ser His Lys Glu Glu Thr Ser Trp Asp  
 20 25 30  
 Cys Ile Ala Ser Ser Tyr Asn Lys Ile Val Gln Asp Lys Gly His Tyr  
 35 40 45  
 Tyr His Arg Glu Thr Ile Leu Pro Gln Leu Leu Pro Ser Leu Thr Leu  
 50 55 60  
 Gly Ser Lys Ser Ser Val Leu Asp Ile Gly Cys Gly Gln Gly Phe Leu  
 65 70 75 80  
 Glu Arg Ala Leu Pro Lys Glu Cys Arg Tyr Leu Gly Ile Asp Ile Ser  
 85 90 95  
 Ser Arg Leu Ile Ala Leu Ala Lys Lys Met Arg Ser Val Asn Ser His  
 100 105 110  
 Gln Phe Lys Val Ala Asp Leu Ser Lys Arg Leu Glu Phe Val Glu Pro  
 115 120 125  
 Thr Leu Phe Ser His Ala Val Ala Ile Leu Ser Leu Gln Asn Met Glu  
 130 135 140  
 Phe Pro Gly Glu Ala Ile Arg Asn Thr Ala Thr Leu Leu Glu Pro Leu  
 145 150 155 160  
 Gly Gln Phe Phe Ile Val Leu Asn His Pro Cys Phe Arg Ile Pro Arg  
 165 170 175  
 Ala Ser Ser Trp His Tyr Asp Glu Asn Lys Lys Ala Ile Ser Arg His  
 180 185 190  
 Ile Asp Arg Tyr Leu Ser Pro Met Lys Ile Pro Ile Met Ala His Pro  
 195 200 205  
 Gly Gln Lys Asp Ser Pro Ser Thr Leu Ser Phe His Phe Pro Leu Ser  
 210 215 220  
 Tyr Trp Phe Lys Glu Leu Ser Ser His Gly Phe Leu Val Ser Gly Leu  
 225 230 235 240  
 Glu Glu Trp Thr Ser Ser Lys Thr Ser Thr Gly Lys Arg Ala Lys Ala  
 245 250 255  
 Glu Asn Leu Cys Arg Lys Glu Phe Pro Leu Phe Leu Met Ile Ser Cys  
 260 265 270  
 Ile Lys Ile Lys  
 275

<210> 190

<211> 437

<212> PRT

<213> Chlamydia pneumoniae

<400> 190

Lys Thr Leu Asn Ser Cys Ile Met Phe Arg Lys Leu Phe Pro Phe Ser  
 1 5 10 15  
 Lys Lys Lys Thr Gly Gln Lys Gln Arg Leu Arg Asn Asn Gly Leu Leu  
 20 25 30  
 Gln Ala Ile Ile Gln Ser Ile Lys Val Leu Leu His Asn Glu Ala Ser  
 35 40 45  
 Lys Glu Ala Cys Val Leu Ser Tyr Tyr Gly Leu Leu Thr Cys Val Pro  
 50 55 60  
 Ile Leu Val Phe Phe Leu Arg Leu Ser Gln His Leu Phe Thr Asn Leu  
 65 70 75 80  
 Asn Trp Lys Glu Trp Leu Ile Ile Lys Phe Pro Asp Tyr Lys Lys Pro  
 85 90 95  
 Ile Val Ala Ile Val Glu Ala Ala Tyr His Ala Thr Glu Ser Asn Ile  
 100 105 110  
 Gly Leu Val Leu Val Gly Ser Phe Phe Val Phe Cys Trp Ala Gly Ile  
 115 120 125  
 Leu Met Leu Leu Ser Leu Glu Asp Gly Leu Asn Lys Ile Phe Arg Thr  
 130 135 140  
 Ser Trp Thr Pro Ile Ser Leu Lys Arg Leu Val Ser Tyr Phe Val Ile  
 145 150 155 160

Thr Leu Val Ser Pro Met Ile Phe Ile Ile Val Cys Gly Ser Trp Ile  
 165 170 175  
 Tyr Ile Thr Gln Ile Met Pro Ile Gln Tyr Ala Lys Leu Phe Ser Leu  
 180 185 190  
 Ser His Ser Met Thr Ala Leu Tyr Phe Ile Ser Arg Phe Val Pro Tyr  
 195 200 205  
 Leu Leu Leu Tyr Leu Ala Leu Phe Cys Cys Tyr Ala Phe Leu Pro Arg  
 210 215 220  
 Val Ala Ile Gln Lys Thr Ser Ala Leu Ile Ser Thr Leu Ile Ile Gly  
 225 230 235 240  
 Ser Val Trp Ile Val Phe Gln Lys Ala Phe Phe Ser Leu Gln Val Ser  
 245 250 255  
 Ile Phe Asn Tyr Ser Phe Thr Tyr Gly Ala Leu Val Ala Leu Pro Ser  
 260 265 270  
 Phe Leu Leu Leu Leu Tyr Ile Tyr Thr Met Ile Tyr Leu Phe Gly Gly  
 275 280 285  
 Ala Leu Thr Phe Ile Ile Gln Asn Arg Gly Cys Thr Phe Ile Phe Leu  
 290 295 300  
 Gly Asp Lys Ile Leu Pro Ser Cys Tyr Leu Gln Leu Ile Thr Ser Thr  
 305 310 315 320  
 Tyr Ile Leu Ala Leu Thr Thr Arg Gln Phe Asn Glu Gly Leu Ser Pro  
 325 330 335  
 Leu Thr Ala Gln Phe Ile Ala Lys Gln Ser Lys Val Pro Ile Gly Glu  
 340 345 350  
 Val Ser Gln Cys Leu Asp Val Leu Glu Lys Glu Gly Phe Leu Phe Pro  
 355 360 365  
 Tyr Asn Asn Gly Tyr Gln Pro Val Phe Asn Phe Ser Glu Leu Thr Ile  
 370 375 380  
 Lys Asp Ile Ala Asp Lys Leu Leu His Arg Glu Ile Phe Lys Lys Phe  
 385 390 395 400  
 Asn Pro Asp Leu Gly Ile Thr Phe Ile Glu Asn Ser Phe Gln Asn Ile  
 405 410 415  
 Phe Asn Gln Ala Ser Lys Asn Lys Glu Asn Leu Thr Leu Ser Glu Ile  
 420 425 430  
 Ala Arg Arg Ile Lys  
 435

<210> 191  
 <211> 1145  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 191  
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 Leu Gly Ser Ser Ile Val Leu Gly Phe Leu Ile Phe Leu Pro Gln Leu  
 20 25 30  
 Leu Ser Thr Glu Ser Arg Lys Tyr Leu Val Phe Ser Leu Ile His Lys  
 35 40 45  
 Glu Ser Gly Leu Ser Cys Ser Ala Glu Glu Leu Lys Ile Ser Trp Phe  
 50 55 60  
 Gly Arg Gln Thr Ala Arg Lys Ile Lys Leu Thr Gly Glu Ala Lys Asp  
 65 70 75 80  
 Glu Val Phe Ser Ala Glu Lys Phe Glu Leu Asp Gly Ser Leu Leu Arg  
 85 90 95  
 Leu Leu Ile Tyr Lys Lys Pro Lys Gly Ile Thr Leu Ser Gly Trp Ser  
 100 105 110  
 Leu Lys Ile Asn Glu Pro Ala Ser Ile Asp His Pro Ser Val Ser His  
 115 120 125  
 Leu Asp Pro Gly Ser Leu Leu Thr Tyr Leu Asn Asp Cys Lys Ile Ile  
 130 135 140

Ser	Glu	His	Gly	Phe	Ile	Thr	Met	Lys	Thr	Val	Ser	Gly	Ser	Ser	Leu
145					150					155					160
Ser	Val	Ser	Gly	Phe	Tyr	Leu	Glu	Lys	Ser	Ser	Glu	Lys	Phe	Met	Thr
			165						170						175
Lys	Cys	Val	Val	Ser	Glu	Asp	Gln	Gln	Ser	Gly	Asn	Ile	Phe	Ile	Glu
			180					185					190		
Ser	Val	Leu	Ser	Pro	Asp	Val	Ser	Ile	Ser	Ala	Gln	Phe	Ser	Ser	Val
		195					200					205			
Pro	Val	Ala	Phe	Phe	Lys	Ile	Phe	Ile	Ala	Ser	Pro	Phe	Trp	Asp	His
		210				215					220				
Leu	Leu	Ser	Tyr	Glu	Asp	Ile	Ile	Asn	Leu	Ser	Ala	Glu	Ala	Thr	His
225					230					235					240
Thr	Asn	Asp	Gly	Lys	Ile	Ser	Met	Thr	Ala	Ser	Gly	Glu	Gly	Asn	Gln
			245						250					255	
Ile	Gln	Met	Lys	Leu	Gln	Gly	His	Ile	His	Lys	Ser	Thr	Phe	Tyr	Ile
			260					265					270		
Val	Glu	Gly	Ser	Ser	Ser	Phe	Ile	Glu	Leu	Lys	Pro	Glu	Leu	Ala	Ser
		275					280					285			
Ala	Leu	Cys	Asn	Gln	Ile	Ile	Pro	Leu	Ser	Thr	Pro	Ile	Thr	Ser	Lys
		290				295					300				
Gln	Ile	His	Ala	Thr	Val	Ser	Tyr	Ala	Lys	Ile	Pro	Leu	Asp	Ile	Thr
305					310					315					320
Lys	Trp	Lys	His	Ile	Glu	Ile	Thr	Ser	Gln	Ala	Gln	Leu	Pro	Glu	Val
			325						330					335	
Ala	Ile	His	Pro	Lys	Asp	Pro	Asn	Leu	Ala	Leu	Gln	Leu	Arg	Asp	Thr
			340					345					350		
Lys	Leu	Gly	Ile	Lys	Lys	Thr	Glu	Lys	Phe	Ser	Asp	Ile	Arg	Tyr	Ser
		355					360					365			
Ser	Ser	Thr	Val	Leu	Gly	Gly	Ala	Ser	Pro	Ser	His	Leu	Asn	Gly	Leu
		370				375					380				
Ile	Ser	Ile	Asp	Asn	Lys	Lys	His	Leu	Thr	Lys	Phe	Arg	Leu	Gln	Gln
385				390						395					400
Ala	Gln	Leu	Pro	His	Thr	Tyr	Leu	Arg	Ala	Ile	Phe	Pro	Gln	Pro	Phe
				405					410					415	
Val	Ile	Asn	Val	Pro	Leu	Asp	Val	Ala	Tyr	Tyr	Ser	Leu	Asn	Ile	Glu
			420					425					430		
Gly	Thr	Tyr	Lys	Asn	Ala	His	Leu	Glu	Ala	Asp	Ala	Ile	Leu	Asp	Asn
		435					440					445			
Pro	Leu	Leu	Lys	Leu	Ser	Cys	Ser	Met	Ser	Gly	Thr	Trp	Lys	Asn	Phe
		450				455					460				
Leu	Phe	Lys	Gly	Gln	Gly	Thr	Tyr	His	Phe	Asn	Lys	Lys	Trp	Gln	Glu
465				470					475						480
Ile	Leu	Ser	Pro	His	Phe	Ser	Tyr	Ala	Glu	Ala	Arg	Phe	Ser	Gly	Lys
				485					490					495	
Ala	Gln	Ile	Thr	Asp	Thr	Asn	Leu	Phe	Phe	Pro	Lys	Phe	Ser	Gly	Lys
			500					505					510		
Ile	Thr	Ala	Arg	Glu	Asn	Glu	Leu	Leu	Ile	His	Ala	Lys	Phe	Gly	Ser
		515					520					525			
Pro	Asn	Glu	Pro	Ile	Lys	Pro	Glu	Thr	Thr	Ser	Ile	Leu	Ile	His	Gly
		530				535						540			
Gln	Phe	Cys	Ser	Leu	Pro	Leu	Ser	Leu	Val	Ser	Asn	His	Leu	Ala	Pro
545				550						555					560
Phe	His	Leu	Lys	Lys	Leu	Thr	Phe	Ser	Phe	His	Thr	Asp	Gly	Gly	Lys
				565					570					575	
Phe	Val	Thr	Lys	Gly	Asn	Leu	Gln	Ala	Leu	Ile	Glu	Asn	Pro	Asp	Tyr
			580					585					590		
Pro	Asp	Leu	Asn	Asn	Thr	Arg	Ile	Leu	Ile	Pro	Asp	Leu	Leu	Leu	Ser
			595				600					605			
Leu	Asp	Glu	Ser	Ser	Thr	Ser	Pro	Ser	Ser	Lys	Asp	Leu	Lys	Ile	Gln
		610				615					620				

Gly	Ser	Gly	Glu	Ile	Phe	Ser	Leu	Pro	Leu	Asp	Ser	Ile	Thr	Lys	Thr
625					630					635					640
Tyr	Gly	Lys	Gln	Val	Arg	Leu	Ser	Pro	Tyr	Phe	Gly	Ser	Ser	Gly	Asp
				645					650						655
Leu	Asn	Phe	Val	Val	Asn	Tyr	Asn	Pro	Lys	Asp	Gln	Asn	Lys	Leu	Thr
			660					665						670	
Leu	Leu	Ser	Asn	Phe	Lys	Ser	Glu	Ala	Leu	Leu	Gly	Glu	Leu	Lys	Leu
		675					680					685			
Val	Met	Asp	Phe	Ser	Met	Lys	Leu	Ser	Ser	Gly	Thr	Gln	Gly	Thr	Leu
	690					695				700					
Gln	Trp	Glu	Val	Ser	Pro	Glu	Arg	Tyr	Ala	Ser	Phe	Phe	Lys	Asn	Ala
705					710					715					720
Ser	Cys	Ser	Pro	Thr	Cys	Leu	Leu	His	Arg	Thr	Ala	Asn	Val	Arg	Leu
				725					730					735	
Asp	Ile	Ser	Lys	Leu	Ser	Cys	Pro	Glu	Glu	Thr	Lys	Gly	Leu	Ser	Cys
			740					745					750		
Leu	Thr	Leu	Leu	Ala	Ala	Gly	Gly	Leu	Glu	Gly	Ser	Leu	Glu	Ala	Thr
		755					760						765		
Pro	Leu	Ile	Phe	Tyr	Asp	Asn	Val	Ser	Lys	Glu	Thr	Phe	Ile	Ile	Asn
	770					775					780				
Asp	Phe	Lys	Gly	Ser	Leu	Arg	Ala	Asn	Asn	Leu	Asp	Ala	Lys	Ile	Glu
785					790					795					800
Tyr	Asp	Leu	Lys	Gly	Ser	Cys	Leu	Ala	Pro	Arg	Gln	Asp	Ser	Lys	Thr
			805						810					815	
Leu	Ala	Glu	Phe	Ser	Leu	Glu	Gly	Gln	Val	Asp	His	Leu	Phe	Ser	Pro
			820					825					830		
Glu	Ser	Arg	Glu	Phe	Lys	Gln	Thr	Ala	Asn	Trp	Ile	His	Ile	Pro	Ser
		835					840					845			
Ser	Phe	Ile	Ala	Gly	Ile	Ile	Pro	Met	Ser	Pro	Gly	Leu	Lys	Ala	Gln
	850					855					860				
Ile	Ser	Ser	Leu	Ala	Gly	Pro	Arg	Ile	Asn	Val	Ser	Ile	Lys	Asn	Ala
865					870					875					880
Phe	Arg	Phe	Gly	Glu	Gly	Pro	Val	Asp	Ile	Met	Val	Asp	Ser	Glu	Asn
			885					890						895	
Leu	Gln	Ala	Gln	Ile	Pro	Leu	Ile	Leu	Asn	Glu	Lys	Ser	Ile	Leu	Leu
			900					905					910		
Arg	Glu	Asn	Leu	Thr	Ala	His	Leu	Ser	Ile	Asn	Glu	Asp	Val	Asn	Lys
		915					920					925			
Ala	Phe	Leu	Gln	Glu	Phe	Asn	Pro	Leu	Leu	Ala	Gly	Gly	Ala	Tyr	Ser
	930					935					940				
Gln	Tyr	Pro	Val	Thr	Leu	Glu	Ile	Asp	Lys	Gln	Asn	Phe	Tyr	Leu	Pro
945					950					955					960
Ile	Arg	Pro	Tyr	Ser	Phe	Glu	Glu	Phe	Arg	Ile	Gln	Ser	Ala	Thr	Leu
			965					970						975	
Asp	Met	Gly	Lys	Ile	Ser	Ile	Ala	Asn	Thr	Gly	Thr	Met	Tyr	Ala	Leu
			980					985					990		
Phe	Gln	Phe	Leu	Asp	Ile	Thr	Asp	Gln	Lys	Gln	Phe	Val	Glu	Ser	Trp
	995					1000						1005			
Phe	Thr	Pro	Ile	Phe	Phe	Ser	Val	Gln	Lys	Gly	Ser	Ile	Ile	Cys	Lys
	1010					1015						1020			
Arg	Leu	Asp	Ala	Leu	Ile	Asp	Arg	Arg	Ile	Arg	Leu	Ala	Leu	Trp	Gly
1025					1030					1035					1040
Lys	Thr	Asp	Ile	Ala	His	Asp	Arg	Leu	Phe	Met	Thr	Leu	Gly	Ile	Asp
			1045						1050					1055	
Pro	Glu	Val	Ile	Lys	Lys	Tyr	Phe	His	Asn	Thr	Ser	Leu	Lys	Thr	Lys
		1060						1065					1070		
Asn	Phe	Phe	Leu	Ile	Lys	Ile	Arg	Gly	Ser	Ile	Ser	Ser	Pro	Glu	Val
	1075						1080					1085			
Asp	Trp	Ser	Ser	Ala	Tyr	Ala	Arg	Ile	Ala	Leu	Leu	Lys	Ser	Tyr	Ser
	1090					1095					1100				



Leu Gly Asn Pro Phe Ser Ser Leu Ala Asp Lys Leu Phe Ser Ser Leu  
 1105 1110 1115 1120  
 Gly Asp Ser Thr Pro Pro Pro Thr Val His Pro Phe Pro Trp Glu Lys  
 1125 1130 1135  
 Ser Asn Phe Asp Ser Ile Glu Asn Lys  
 1140 1145

<210> 192  
 <211> 458  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 192  
 Leu Leu Gly Ile Lys Leu Met Arg Lys Arg His Ser Phe Asp Ser Thr  
 1 5 10 15  
 Ser Thr Lys Lys Glu Ala Val Ser Lys Ala Ile Gln Lys Ile Ile Lys  
 20 25 30  
 Ile Met Glu Thr Thr Asp Pro Ser Leu Asn Val Glu Thr Pro Asn Ala  
 35 40 45  
 Glu Ile Glu Ser Ile Leu Gln Glu Ile Lys Glu Ile Lys Gln Lys Leu  
 50 55 60  
 Ser Lys Gln Ala Glu Asp Leu Gly Leu Leu Glu Lys Tyr Cys Ser Gln  
 65 70 75 80  
 Glu Thr Leu Ser Asn Leu Glu Asn Thr Asn Ala Ser Leu Lys Leu Ser  
 85 90 95  
 Ile Gly Ser Val Ile Glu Glu Leu Ala Ser Leu Lys Gln Leu Val Glu  
 100 105 110  
 Glu Ser Ile Glu Glu Ser Leu Gly Gln Gln Asp Gln Leu Ile Gln Ser  
 115 120 125  
 Val Leu Ile Glu Ile Ser Asp Lys Phe Leu Ser Ser Ile Gly Glu Thr  
 130 135 140  
 Leu Ser Gly Asn Leu Asp Met Asn Gln Asn Val Ile Gln Gly Leu Leu  
 145 150 155 160  
 Ile Lys Glu Asn Pro Glu Lys Ser Glu Ala Ala Ser Val Gly Tyr Val  
 165 170 175  
 Gln Thr Leu Leu Glu Pro Leu Ser Lys Arg Ile Gly Glu Thr His Lys  
 180 185 190  
 Lys Val Ala Thr His Asp Val Asn Ile Ser Ser Leu Gln Phe His Met  
 195 200 205  
 Met Ser Val Ala Gly Gly Arg Phe Arg Gly His Ile Asp Met Asn Gly  
 210 215 220  
 Tyr Arg Val Leu Gly Leu Gly Glu Pro Lys Asn Gly Glu Asp Ala Val  
 225 230 235 240  
 Ser Lys Asp Tyr Leu Glu Arg Tyr Val Ser Ser Gln Leu Thr Ile Asp  
 245 250 255  
 Lys Val Glu Asp Lys Pro Ile Thr Lys Pro Asn Lys Gly Lys Leu Leu  
 260 265 270  
 Tyr Ser Gln Gly Thr Ser Pro Lys Leu Glu Ser Pro Leu Pro Leu Gly  
 275 280 285  
 Leu Leu Thr Ser Gly Ile Ser Gly Phe Thr Trp Lys Ser Ala Ser Lys  
 290 295 300  
 Ser Asn Asp Gly Ser Phe Pro Phe Ser Ala Leu Arg His Lys Glu Thr  
 305 310 315 320  
 Glu Ser Asp Thr Asp Cys Phe Gln Ile Thr Ser Thr Thr Leu Ser Gly  
 325 330 335  
 Asn Gln Ala Gly Thr Tyr Thr Trp Ser Leu Ser Leu Lys Val Leu Val  
 340 345 350  
 Pro Ser Ile Phe Gln Ile Glu Lys Pro Glu Val Gln Leu Ser Leu Val  
 355 360 365  
 Tyr Ser Tyr Glu Asp Trp Leu Pro Ile Asp Asn Ile Phe Asn Met Ser  
 370 375 380

Gln Pro Arg Thr Ile Pro Leu Ala Leu Leu Gly Gln Thr Met Leu Ala  
 385 390 395 400  
 Gly Gln Lys Tyr Asp Ile Leu Glu Leu Ala Ala His Gln Thr Asn Gln  
 405 410 415  
 Thr Leu Met Ile Ser Pro Asn Cys Ser Arg Phe Ser Leu Gln Leu Lys  
 420 425 430  
 Gln Thr Asn Gln Phe Glu Asn Ser Pro Val Asp Phe Tyr Ile Val His  
 435 440 445  
 Ala Ala His Ser Cys His Trp Ser Gly Phe  
 450 455

<210> 193  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 193  
 Gln His His Phe Pro Val Phe Leu Gly Tyr Gln Lys Arg Glu Gly Val  
 1 5 10 15  
 Met Thr Ile Arg Val Arg Asn Leu Ala Tyr Ser Val Asn Lys Lys  
 20 25 30  
 Ile Leu Asp Gly Val Thr Phe Ser Leu Glu Arg Gly His Ile Thr Leu  
 35 40 45  
 Phe Val Gly Lys Ser Gly Ser Gly Lys Thr Met Ile Leu Arg Ala Leu  
 50 55 60  
 Ala Gly Leu Val Gln Pro Thr Gln Gly Asp Ile Trp Ile Glu Gly Glu  
 65 70 75 80  
 Ala Pro Ala Leu Val Phe Gln Gln Pro Glu Leu Phe Ser His Met Thr  
 85 90 95  
 Val Leu Gly Asn Cys Thr His Pro Gln Ile His Ile Lys Gly Arg Ser  
 100 105 110  
 Thr Glu Glu Ala Arg Glu Lys Ala Phe Glu Leu Leu His Leu Leu Asp  
 115 120 125  
 Ile Glu Glu Val Ala Lys Asn Tyr Pro Asp Gln Leu Ser Gly Gly Gln  
 130 135 140  
 Lys Gln Arg Val Ala Ile Val Arg Ser Leu Cys Met Asp Lys His Thr  
 145 150 155 160  
 Leu Leu Phe Asp Glu Pro Thr Ser Ala Leu Asp Pro Phe Ala Thr Ala  
 165 170 175  
 Ser Phe Arg His Leu Leu Glu Thr Leu Arg Asp Gln Glu Leu Thr Val  
 180 185 190  
 Gly Leu Thr Thr His Asp Met Gln Phe Val His Ser Cys Leu Asp Arg  
 195 200 205  
 Ile Tyr Leu Ile Asp Gln Gly Thr Val Ala Gly Val Tyr Asp Lys Arg  
 210 215 220  
 Asp Gly Glu Leu Asp Ser Gly His Pro Leu Ser Lys Tyr Ile His Ser  
 225 230 235 240  
 Ala Gln

<210> 194  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 194  
 Glu Val Gly Val Asp His Trp Leu Ala Ile Ala Arg Leu Leu Leu Arg  
 1 5 10 15  
 Gly Cys Gly Tyr Thr Leu Cys Val Ser Gly Ile Gly Ile Leu Cys Gly  
 20 25 30

Ser Ile Leu Gly Leu Leu Ile Gly Thr Val Thr Ser Leu Tyr Phe Pro  
           35                          40                          45  
 Ser Lys Leu Thr Lys Leu Leu Ala Asn Ser Tyr Val Thr Val Ile Arg  
       50                          55                          60  
 Gly Thr Pro Leu Phe Ile Gln Ile Leu Ile Ile Tyr Phe Gly Leu Pro  
 65                          70                          75                          80  
 Glu Val Leu Pro Ile Glu Pro Thr Pro Leu Val Ala Gly Ile Ile Ala  
                           85                          90                          95  
 Leu Ser Met Asn Ser Ala Ala Tyr Leu Ala Glu Asn Ile Arg Gly Gly  
                           100                          105                          110  
 Ile Asn Ser Leu Ser Ile Gly Gln Trp Glu Ser Ala Met Val Leu Gly  
           115                          120                          125  
 Tyr Lys Lys Tyr Gln Ile Phe Val Tyr Ile Ile Tyr Pro Gln Val Phe  
       130                          135                          140  
 Lys Asn Ile Leu Pro Ser Leu Thr Asn Glu Phe Val Ser Leu Ile Lys  
 145                          150                          155                          160  
 Glu Ser Ser Ile Leu Met Val Val Gly Val Pro Glu Leu Thr Lys Val  
                           165                          170                          175  
 Thr Lys Asp Ile Val Ser Arg Glu Leu Asn Pro Met Glu Met Tyr Leu  
                           180                          185                          190  
 Ile Cys Ala Gly Leu Tyr Phe Leu Met Thr Thr Ser Phe Ser Cys Ile  
           195                          200                          205  
 Ser Arg Leu Ser Glu Lys Arg Arg Ser Tyr Asp Asn  
       210                          215                          220

<210> 195  
 <211> 153  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 195  
 Lys Leu His Gly Val Phe Met Lys Lys Lys Val Thr Ile Asp Glu Ala  
   1                          5                          10                          15  
 Leu Lys Glu Ile Leu Arg Leu Glu Gly Ala Ala Thr Gln Glu Glu Leu  
           20                          25                          30  
 Cys Ala Lys Leu Leu Ala Gln Gly Phe Ala Thr Thr Gln Ser Ser Val  
       35                          40                          45  
 Ser Arg Trp Leu Arg Lys Ile Gln Ala Val Lys Val Ala Gly Glu Arg  
       50                          55                          60  
 Gly Ala Arg Tyr Ser Leu Pro Ser Ser Thr Glu Lys Thr Thr Thr Arg  
 65                          70                          75                          80  
 His Leu Val Leu Ser Ile Arg His Asn Ala Ser Leu Ile Val Ile Arg  
           85                          90                          95  
 Thr Val Pro Gly Ser Ala Ser Trp Ile Ala Ala Leu Leu Asp Gln Gly  
           100                          105                          110  
 Leu Lys Asp Glu Ile Leu Gly Thr Leu Ala Gly Asp Asp Thr Ile Phe  
           115                          120                          125  
 Val Thr Pro Ile Asp Glu Gly Arg Leu Pro Leu Leu Met Val Ser Ile  
       130                          135                          140  
 Ala Asn Leu Leu Gln Val Phe Leu Asp  
 145                          150

<210> 196  
 <211> 360  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 196  
 Glu Val Pro His Thr Ile Lys Gly Asn Val Phe Phe Ser Trp Phe Phe  
   1                          5                          10                          15

Met Leu Thr Leu Gly Leu Glu Ser Ser Cys Asp Glu Thr Ala Cys Ala  
                   20                  25                  30  
 Ile Val Asn Glu Asp Lys Gln Ile Leu Ala Asn Ile Ile Ala Ser Gln  
                   35                  40                  45  
 Asp Ile His Ala Ser Tyr Gly Gly Val Val Pro Glu Leu Ala Ser Arg  
                   50                  55                  60  
 Ala His Leu His Ile Phe Pro Gln Val Ile Asn Lys Ala Leu Gln Gln  
                   65                  70                  75                  80  
 Ala Asn Leu Leu Ile Glu Asp Met Asp Leu Ile Ala Val Thr Gln Thr  
                   85                  90                  95  
 Pro Gly Leu Ile Gly Ser Leu Ser Val Gly Val His Phe Gly Lys Gly  
                   100                  105                  110  
 Ile Ala Ile Gly Ala Lys Lys Ser Leu Ile Gly Val Asn His Val Glu  
                   115                  120                  125  
 Ala His Leu Tyr Ala Ala Tyr Met Ala Ala Gln Asn Val Gln Phe Pro  
                   130                  135                  140  
 Ala Leu Gly Leu Val Val Ser Gly Ala His Thr Ala Ala Phe Phe Ile  
                   145                  150                  155                  160  
 Glu Asn Pro Thr Ser Tyr Lys Leu Ile Gly Lys Thr Arg Asp Asp Ala  
                   165                  170                  175  
 Ile Gly Glu Thr Phe Asp Lys Val Gly Arg Phe Leu Gly Leu Pro Tyr  
                   180                  185                  190  
 Pro Ala Gly Pro Leu Ile Glu Lys Leu Ala Leu Glu Gly Ser Glu Asp  
                   195                  200                  205  
 Ser Tyr Pro Phe Ser Pro Ala Lys Val Pro Asn Tyr Asp Phe Ser Phe  
                   210                  215                  220  
 Ser Gly Leu Lys Thr Ala Val Leu Tyr Ala Ile Lys Gly Asn Asn Ser  
                   225                  230                  235                  240  
 Ser Pro Arg Ser Pro Ala Pro Glu Ile Ser Leu Glu Lys Gln Arg Asp  
                   245                  250                  255  
 Ile Ala Ala Ser Phe Gln Lys Ala Ala Cys Thr Thr Ile Ala Gln Lys  
                   260                  265                  270  
 Leu Pro Thr Ile Ile Lys Glu Phe Ser Cys Arg Ser Ile Leu Ile Gly  
                   275                  280                  285  
 Gly Gly Val Ala Ile Asn Glu Tyr Phe Arg Ser Ala Ile Gln Thr Ala  
                   290                  295                  300  
 Cys Asn Leu Pro Val Tyr Phe Pro Pro Ala Lys Leu Cys Ser Asp Asn  
                   305                  310                  315                  320  
 Ala Ala Met Ile Ala Gly Leu Gly Gly Glu Asn Phe Gln Lys Asn Ser  
                   325                  330                  335  
 Ser Ile Pro Glu Ile Arg Ile Cys Ala Arg Tyr Gln Trp Glu Ser Val  
                   340                  345                  350  
 Ser Pro Phe Ser Leu Ala Ser Pro  
                   355                  360

<210> 197

<211> 538

<212> PRT

<213> Chlamydia pneumoniae

<400> 197

Tyr Ser Gly Asn Ser Tyr Met Arg Lys Ile Ser Val Gly Ile Cys Ile  
   1                  5                  10                  15  
 Thr Ile Leu Leu Ser Leu Ser Val Val Leu Gln Gly Cys Lys Glu Ser  
                   20                  25                  30  
 Ser His Ser Ser Thr Ser Arg Gly Glu Leu Ala Ile Asn Ile Arg Asp  
                   35                  40                  45  
 Glu Pro Arg Ser Leu Asp Pro Arg Gln Val Arg Leu Leu Ser Glu Ile  
                   50                  55                  60  
 Ser Leu Val Lys His Ile Tyr Glu Gly Leu Val Gln Glu Asn Asn Leu  
                   65                  70                  75                  80

Ser Gly Asn Ile Glu Pro Ala Leu Ala Glu Asp Tyr Ser Leu Ser Ser  
 85 90 95  
 Asp Gly Leu Thr Tyr Thr Phe Lys Leu Lys Ser Ala Phe Trp Ser Asn  
 100 105 110  
 Gly Asp Pro Leu Thr Ala Glu Asp Phe Ile Glu Ser Trp Lys Gln Val  
 115 120 125  
 Ala Thr Gln Glu Val Ser Gly Ile Tyr Ala Phe Ala Leu Asn Pro Ile  
 130 135 140  
 Lys Asn Val Arg Lys Ile Gln Glu Gly His Leu Ser Ile Asp His Phe  
 145 150 155 160  
 Gly Val His Ser Pro Asn Glu Ser Thr Leu Val Val Thr Leu Glu Ser  
 165 170 175  
 Pro Thr Ser His Phe Leu Lys Leu Leu Ala Leu Pro Val Phe Phe Pro  
 180 185 190  
 Val His Lys Ser Gln Arg Thr Leu Gln Ser Lys Ser Leu Pro Ile Ala  
 195 200 205  
 Ser Gly Ala Phe Tyr Pro Lys Asn Ile Lys Gln Lys Gln Trp Ile Lys  
 210 215 220  
 Leu Ser Lys Asn Pro His Tyr Tyr Asn Gln Ser Gln Val Glu Thr Lys  
 225 230 235 240  
 Thr Ile Thr Ile His Phe Ile Pro Asp Ala Asn Thr Ala Ala Lys Leu  
 245 250 255  
 Phe Asn Gln Gly Lys Leu Asn Trp Gln Gly Pro Pro Trp Gly Glu Arg  
 260 265 270  
 Ile Pro Gln Glu Thr Leu Ser Asn Leu Gln Ser Lys Gly His Leu His  
 275 280 285  
 Ser Phe Asp Val Ala Gly Thr Ser Trp Leu Thr Phe Asn Ile Asn Lys  
 290 295 300  
 Phe Pro Leu Asn Asn Met Lys Leu Arg Glu Ala Leu Ala Ser Ala Leu  
 305 310 315 320  
 Asp Lys Glu Ala Leu Val Ser Thr Ile Phe Leu Gly Arg Ala Lys Thr  
 325 330 335  
 Ala Asp His Leu Leu Pro Thr Asn Ile His Ser Tyr Pro Glu His Gln  
 340 345 350  
 Lys Gln Glu Met Ala Gln Arg Gln Ala Tyr Ala Lys Lys Leu Phe Lys  
 355 360 365  
 Glu Ala Leu Glu Glu Leu Gln Ile Thr Ala Lys Asp Leu Glu His Leu  
 370 375 380  
 Asn Leu Ile Phe Pro Val Ser Ser Ser Ala Ser Ser Leu Leu Val Gln  
 385 390 395 400  
 Leu Ile Arg Glu Gln Trp Lys Glu Ser Leu Gly Phe Ala Ile Pro Ile  
 405 410 415  
 Val Gly Lys Glu Phe Ala Leu Leu Gln Ala Asp Leu Ser Ser Gly Asn  
 420 425 430  
 Phe Ser Leu Ala Thr Gly Gly Trp Phe Ala Asp Phe Ala Asp Pro Met  
 435 440 445  
 Ala Phe Leu Thr Ile Phe Ala Tyr Pro Ser Gly Val Pro Pro Tyr Ala  
 450 455 460  
 Ile Asn His Lys Asp Phe Leu Glu Ile Leu Gln Asn Ile Glu Gln Glu  
 465 470 475 480  
 Gln Asp His Gln Lys Arg Ser Glu Leu Val Ser Gln Ala Ser Leu Tyr  
 485 490 495  
 Leu Glu Thr Phe His Ile Ile Glu Pro Ile Tyr His Asp Ala Phe Gln  
 500 505 510  
 Phe Ala Met Asn Lys Lys Leu Ser Asn Leu Gly Val Ser Pro Thr Gly  
 515 520 525  
 Val Val Asp Phe Arg Tyr Ala Lys Glu Asn  
 530 535

<210> 198  
 <211> 538  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 198  
 Lys Leu Lys Ser Tyr Ser Lys Glu Arg Ser Phe Met Leu Arg Phe Phe  
 1 5 10 15  
 Ala Val Phe Ile Ser Thr Leu Trp Leu Ile Thr Ser Gly Cys Ser Pro  
 20 25 30  
 Ser Gln Ser Ser Lys Gly Ile Phe Val Val Asn Met Lys Glu Met Pro  
 35 40 45  
 Arg Ser Leu Asp Pro Gly Lys Thr Arg Leu Ile Ala Asp Gln Thr Leu  
 50 55 60  
 Met Arg His Leu Tyr Glu Gly Leu Val Glu Glu His Ser Gln Asn Gly  
 65 70 75 80  
 Glu Ile Lys Pro Ala Leu Ala Glu Ser Tyr Thr Ile Ser Glu Asp Gly  
 85 90 95  
 Thr Arg Tyr Thr Phe Lys Ile Lys Asn Ile Leu Trp Ser Asn Gly Asp  
 100 105 110  
 Pro Leu Thr Ala Gln Asp Phe Val Ser Ser Trp Lys Glu Ile Leu Lys  
 115 120 125  
 Glu Asp Ala Ser Ser Val Tyr Leu Tyr Ala Phe Leu Pro Ile Lys Asn  
 130 135 140  
 Ala Arg Ala Ile Phe Asp Asp Thr Glu Ser Pro Glu Asn Leu Gly Val  
 145 150 155 160  
 Arg Ala Leu Asp Lys Arg His Leu Glu Ile Gln Leu Glu Thr Pro Cys  
 165 170 175  
 Ala His Phe Leu His Phe Leu Thr Leu Pro Ile Phe Phe Pro Val His  
 180 185 190  
 Glu Thr Leu Arg Asn Tyr Ser Thr Ser Phe Glu Glu Met Pro Ile Thr  
 195 200 205  
 Cys Gly Ala Phe Arg Pro Val Ser Leu Glu Lys Gly Leu Arg Leu His  
 210 215 220  
 Leu Glu Lys Asn Pro Met Tyr His Asn Lys Ser Arg Val Lys Leu His  
 225 230 235 240  
 Lys Ile Ile Val Gln Phe Ile Ser Asn Ala Asn Thr Ala Ala Ile Leu  
 245 250 255  
 Phe Lys His Lys Lys Leu Asp Trp Gln Gly Pro Pro Trp Gly Glu Pro  
 260 265 270  
 Ile Pro Pro Glu Ile Ser Ala Ser Leu His Gln Asp Asp Gln Leu Phe  
 275 280 285  
 Ser Leu Pro Gly Ala Ser Thr Trp Leu Leu Phe Asn Ile Gln Lys  
 290 295 300  
 Lys Pro Trp Asn Asn Ala Lys Leu Arg Lys Ala Leu Ser Leu Ala Ile  
 305 310 315 320  
 Asp Lys Asp Met Leu Thr Lys Val Val Tyr Gln Gly Leu Ala Glu Pro  
 325 330 335  
 Thr Asp His Ile Leu His Pro Arg Leu Tyr Pro Gly Thr Tyr Pro Glu  
 340 345 350  
 Arg Lys Arg Gln Asn Glu Arg Ile Leu Glu Ala Gln Gln Leu Phe Glu  
 355 360 365  
 Glu Ala Leu Asp Glu Leu Gln Met Thr Arg Glu Asp Leu Glu Lys Glu  
 370 375 380  
 Thr Leu Thr Phe Ser Thr Phe Ser Phe Ser Tyr Gly Arg Ile Cys Gln  
 385 390 395 400  
 Met Leu Arg Glu Gln Trp Lys Lys Val Leu Lys Phe Thr Ile Pro Ile  
 405 410 415  
 Val Gly Gln Glu Phe Phe Thr Ile Gln Lys Asn Phe Leu Glu Gly Asn  
 420 425 430

Tyr Ser Leu Thr Val Asn Gln Trp Thr Ala Ala Phe Ile Asp Pro Met  
 435 440 445  
 Ser Tyr Leu Met Ile Phe Ala Asn Pro Gly Gly Ile Ser Pro Tyr His  
 450 455 460  
 Leu Gln Asp Ser His Phe Gln Thr Leu Leu Ile Lys Ile Thr Gln Glu  
 465 470 475 480  
 His Lys Lys His Leu Arg Asn Gln Leu Ile Ile Glu Ala Leu Asp Tyr  
 485 490 495  
 Leu Glu His Cys His Ile Leu Glu Pro Leu Cys His Pro Asn Leu Arg  
 500 505 510  
 Ile Ala Leu Asn Lys Asn Ile Lys Asn Phe Asn Leu Phe Val Arg Arg  
 515 520 525  
 Thr Ser Asp Phe Arg Phe Ile Glu Lys Leu  
 530 535

<210> 199  
 <211> 457  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 199  
 Lys Asn Tyr Arg Arg Lys Ser Leu Asp Leu Lys Phe Asp Ser Lys Phe  
 1 5 10 15  
 Ile Lys Val Ile Phe Lys Met Phe Ser Arg Trp Ile Thr Leu Phe Leu  
 20 25 30  
 Leu Phe Ile Ser Leu Thr Gly Cys Ser Ser Tyr Ser Ser Lys His Lys  
 35 40 45  
 Gln Ser Leu Ile Ile Pro Ile His Asp Asp Pro Val Ala Phe Ser Pro  
 50 55 60  
 Glu Gln Ala Lys Arg Ala Met Asp Leu Ser Ile Ala Gln Leu Leu Phe  
 65 70 75 80  
 Asp Gly Leu Thr Arg Glu Thr His Arg Glu Ser Asn Asp Leu Glu Leu  
 85 90 95  
 Ala Ile Ala Ser Arg Tyr Thr Val Ser Glu Asp Phe Cys Ser Tyr Thr  
 100 105 110  
 Phe Phe Ile Lys Asp Ser Ala Leu Trp Ser Asp Gly Thr Pro Ile Thr  
 115 120 125  
 Ser Glu Asp Ile Arg Asn Ala Trp Glu Tyr Ala Gln Glu Asn Ser Pro  
 130 135 140  
 His Ile Gln Ile Phe Gln Gly Leu Asn Phe Ser Thr Pro Ser Ser Asn  
 145 150 155 160  
 Ala Ile Thr Ile His Leu Asp Ser Pro Asn Pro Asp Phe Pro Lys Leu  
 165 170 175  
 Leu Ala Phe Pro Ala Phe Ala Ile Phe Lys Pro Glu Asn Pro Lys Leu  
 180 185 190  
 Phe Ser Gly Pro Tyr Thr Leu Val Glu Tyr Phe Pro Gly His Asn Ile  
 195 200 205  
 His Leu Lys Lys Asn Pro Asn Tyr Tyr Asp Tyr His Cys Val Ser Ile  
 210 215 220  
 Asn Ser Ile Lys Leu Leu Ile Ile Pro Asp Ile Tyr Thr Ala Ile His  
 225 230 235 240  
 Leu Leu Asn Arg Gly Lys Val Asp Trp Val Gly Gln Pro Trp His Gln  
 245 250 255  
 Gly Ile Pro Trp Glu Leu His Lys Gln Ser Gln Tyr His Tyr Tyr Thr  
 260 265 270  
 Tyr Pro Val Glu Gly Ala Phe Trp Leu Cys Leu Asn Thr Lys Ser Pro  
 275 280 285  
 His Leu Asn Asp Leu Gln Asn Arg His Arg Leu Ala Thr Cys Ile Asp  
 290 295 300  
 Lys Arg Ser Ile Ile Glu Glu Ala Leu Gln Gly Thr Gln Gln Pro Ala  
 305 310 315 320

Glu Thr Leu Ser Arg Gly Ala Pro Gln Pro Asn Gln Tyr Lys Lys Gln  
 325 330 335  
 Lys Pro Leu Thr Pro Gln Glu Lys Leu Val Leu Thr Tyr Pro Ser Asp  
 340 345 350  
 Ile Leu Arg Cys Gln Arg Ile Ala Glu Ile Leu Lys Glu Gln Trp Lys  
 355 360 365  
 Ala Ala Gly Ile Asp Leu Ile Leu Glu Gly Leu Glu Tyr His Leu Phe  
 370 375 380  
 Val Asn Lys Arg Lys Val Gln Asp Tyr Ala Ile Ala Thr Gln Thr Gly  
 385 390 395 400  
 Val Ala Tyr Tyr Pro Gly Ala Asn Leu Ile Ser Glu Glu Asp Lys Leu  
 405 410 415  
 Leu Gln Asn Phe Glu Ile Ile Pro Ile Tyr Tyr Leu Ser Tyr Asp Tyr  
 420 425 430  
 Leu Thr Gln Asp Phe Ile Glu Gly Val Ile Tyr Asn Ala Ser Gly Ala  
 435 440 445  
 Val Asp Leu Lys Tyr Thr Tyr Phe Pro  
 450 455

<210> 200  
 <211> 534  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 200  
 Gln Ile Glu Tyr Tyr Ile Met Lys Met His Arg Leu Lys Pro Thr Leu  
 1 5 10 15  
 Lys Ser Leu Ile Pro Asn Leu Leu Phe Leu Leu Thr Leu Ser Ser  
 20 25 30  
 Cys Ser Lys Gln Lys Gln Glu Pro Leu Gly Lys His Leu Val Ile Ala  
 35 40 45  
 Met Ser His Asp Leu Ala Asp Leu Asp Pro Arg Asn Ala Tyr Leu Ser  
 50 55 60  
 Arg Asp Ala Ser Leu Ala Lys Ala Leu Tyr Glu Gly Leu Thr Arg Glu  
 65 70 75 80  
 Thr Asp Gln Gly Ile Ala Leu Ala Leu Ala Glu Ser Tyr Thr Leu Ser  
 85 90 95  
 Lys Asp His Lys Val Tyr Thr Phe Lys Leu Arg Pro Ser Val Trp Ser  
 100 105 110  
 Asp Gly Thr Pro Leu Thr Ala Tyr Asp Phe Glu Lys Ser Ile Lys Gln  
 115 120 125  
 Leu Tyr Phe Glu Glu Phe Ser Pro Ser Ile His Thr Leu Leu Gly Val  
 130 135 140  
 Ile Lys Asn Ser Ser Ala Ile His Asn Ala Gln Lys Ser Leu Glu Thr  
 145 150 155 160  
 Leu Gly Ile Gln Ala Lys Asp Asp Leu Thr Leu Val Ile Thr Leu Glu  
 165 170 175  
 Gln Pro Phe Pro Tyr Phe Leu Thr Leu Ile Ala Arg Pro Val Phe Ser  
 180 185 190  
 Pro Val His His Thr Leu Arg Glu Ser Tyr Lys Lys Gly Thr Pro Pro  
 195 200 205  
 Ser Thr Tyr Ile Ser Asn Gly Pro Phe Val Leu Lys Lys His Glu His  
 210 215 220  
 Gln Asn Tyr Leu Ile Leu Glu Lys Asn Pro His Tyr Tyr Asp His Glu  
 225 230 235 240  
 Ser Val Lys Leu Asp Arg Val Thr Leu Lys Ile Ile Pro Asp Ala Ser  
 245 250 255  
 Thr Ala Thr Lys Leu Phe Lys Ser Lys Ser Ile Asp Trp Ile Gly Ser  
 260 265 270  
 Pro Trp Ser Ala Pro Ile Ser Asn Glu Asp Gln Lys Val Leu Ser Gln  
 275 280 285



Glu Lys Ile Leu Thr Tyr Ser Val Ser Ser Thr Thr Leu Leu Ile Tyr  
 290 295 300  
 Asn Leu Gln Lys Pro Leu Ile Gln Asn Lys Ala Leu Arg Lys Ala Ile  
 305 310 315 320  
 Ala His Ala Ile Asp Arg Lys Ser Ile Leu Arg Leu Val Pro Ser Gly  
 325 330 335  
 Gln Glu Ala Val Thr Leu Val Pro Pro Asn Leu Ser Gln Leu Asn Leu  
 340 345 350  
 Gln Lys Glu Ile Ser Thr Glu Glu Arg Gln Thr Lys Ala Arg Ala Tyr  
 355 360 365  
 Phe Gln Glu Ala Lys Glu Thr Leu Ser Glu Lys Glu Leu Ala Glu Leu  
 370 375 380  
 Ser Ile Leu Tyr Pro Ile Asp Ser Ser Asn Ser Ser Ile Ile Ala Gln  
 385 390 395 400  
 Glu Ile Gln Arg Gln Leu Lys Asp Thr Leu Gly Leu Lys Ile Lys Ile  
 405 410 415  
 Gln Gly Met Glu Tyr His Cys Phe Leu Lys Lys Arg Arg Gln Gly Asp  
 420 425 430  
 Phe Phe Ile Ala Thr Gly Gly Trp Ile Ala Glu Tyr Val Ser Pro Val  
 435 440 445  
 Ala Phe Leu Ser Ile Leu Gly Asn Pro Arg Asp Leu Thr Gln Trp Arg  
 450 455 460  
 Asn Ser Asp Tyr Glu Lys Thr Leu Glu Lys Leu Tyr Leu Pro His Ala  
 465 470 475 480  
 Tyr Lys Glu Asn Leu Lys Arg Ala Glu Met Ile Ile Glu Glu Glu Thr  
 485 490 495  
 Pro Ile Ile Pro Leu Tyr His Gly Lys Tyr Ile Tyr Ala Ile His Pro  
 500 505 510  
 Lys Ile Gln Asn Thr Phe Gly Ser Leu Leu Gly His Thr Asp Leu Lys  
 515 520 525  
 Asn Ile Asp Ile Leu Ser  
 530

<210> 201  
 <211> 322  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 201  
 Lys Cys Leu Ile Gly Leu Ser Leu Val Phe Ser Tyr Ile Lys Asn Arg  
 1 5 10 15  
 Ile Leu Phe Asn Leu Leu Ser Leu Trp Ile Val Leu Thr Leu Thr Phe  
 20 25 30  
 Leu Val Met Lys Thr Ile Pro Gly Asp Pro Phe Asn Asp Glu Gly Cys  
 35 40 45  
 Asn Val Leu Ser Glu Glu Val Leu Gln Thr Leu Lys Ser Arg Tyr Gly  
 50 55 60  
 Leu Asp Lys Pro Leu Tyr Gln Gln Tyr Thr Gln Tyr Leu His Ser Ile  
 65 70 75 80  
 Ala Lys Leu Asp Phe Gly Asn Ser Leu Val Tyr Lys Asp Arg Lys Val  
 85 90 95  
 Thr Asn Ile Ile Ser Thr Ala Phe Pro Ile Ser Ala Ile Leu Gly Leu  
 100 105 110  
 Gln Ser Leu Phe Leu Ser Ile Gly Gly Gly Ile Ala Leu Gly Thr Ile  
 115 120 125  
 Ala Ala Leu Lys Lys Lys Lys Gln Arg Arg Tyr Ile Leu Gly Ala Ser  
 130 135 140  
 Ile Leu Gln Ile Ser Ile Pro Ala Phe Ile Phe Ala Thr Leu Leu Gln  
 145 150 155 160  
 Tyr Val Phe Ala Val Lys Ile Pro Leu Leu Pro Ile Ala Cys Trp Gly  
 165 170 175

Ser Phe Thr His Thr Ile Leu Pro Thr Leu Ala Leu Ala Val Thr Pro  
 180 185 190  
 Met Ala Phe Ile Ile Gln Leu Thr Tyr Ser Ser Val Ser Ala Ala Leu  
 195 200 205  
 Asn Lys Asp Tyr Val Leu Leu Ala Tyr Ala Lys Gly Leu Ser Pro Leu  
 210 215 220  
 Lys Val Val Ile Lys His Ile Leu Pro Tyr Ala Ile Phe Pro Thr Ile  
 225 230 235 240  
 Ser Tyr Ser Ala Phe Leu Thr Thr Thr Val Ile Thr Gly Thr Phe Ala  
 245 250 255  
 Ile Glu Asn Ile Phe Cys Ile Pro Gly Leu Gly Lys Trp Phe Ile Cys  
 260 265 270  
 Ser Ile Lys Gln Arg Asp Tyr Pro Val Ala Leu Gly Leu Ser Val Phe  
 275 280 285  
 Tyr Gly Thr Leu Phe Met Leu Ser Ser Leu Leu Ser Asp Leu Ile Gln  
 290 295 300  
 Ser Ile Ile Asp Pro Gln Ile Arg Tyr Ala His Gly Lys Glu Lys Lys  
 305 310 315 320  
 Arg Lys

<210> 202  
 <211> 291  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 202  
 Glu Lys Lys Lys His Lys Leu Met Glu Asn Leu Ser Ser Ala Pro Ser  
 1 5 10 15  
 Arg Ser Ile Trp Lys Ser Ile Ile Gln Asn Lys Met Leu Val Leu Gly  
 20 25 30  
 Leu Thr Thr Leu Ile Ile Leu Met Leu Gly Ala Leu Leu Leu Pro Trp  
 35 40 45  
 Phe Tyr Gln Asp Tyr Glu Gln Thr Ser Leu Lys Asp Ile Leu Val Ser  
 50 55 60  
 Pro Cys Ser Arg Phe Pro Phe Gly Thr Asp Thr Leu Gly Arg Cys Met  
 65 70 75 80  
 Phe Ala Arg Thr Leu Arg Gly Leu Arg Leu Ser Leu Leu Ile Ala Thr  
 85 90 95  
 Ile Ala Thr Leu Ile Asp Val Cys Val Gly Leu Leu Trp Ala Thr Val  
 100 105 110  
 Ala Ile Ser Gly Gly Lys Lys Ile Asp Phe Leu Met Met Arg Thr Thr  
 115 120 125  
 Glu Ile Leu Phe Ser Leu Pro Arg Ile Pro Ile Ile Ile Leu Leu Leu  
 130 135 140  
 Val Ile Phe His His Gly Leu Leu Pro Leu Ile Leu Ala Met Thr Ile  
 145 150 155 160  
 Thr Gly Trp Ile Pro Ile Ser Arg Ile Ile Tyr Gly Gln Phe Leu Leu  
 165 170 175  
 Leu Lys Asn Lys Pro Phe Val Leu Ser Ala Lys Ala Met His Ala Ser  
 180 185 190  
 Thr Phe His Ile Leu Lys Lys His Leu Leu Pro Asn Thr Leu Ala Pro  
 195 200 205  
 Ile Ile Ser Thr Leu Ile Phe Thr Ile Pro Asn Ala Ile Tyr Thr Glu  
 210 215 220  
 Ala Phe Ile Ser Phe Leu Gly Leu Gly Ile Gln Pro Pro Gln Ala Ser  
 225 230 235 240  
 Leu Gly Thr Leu Val Lys Glu Gly Ile Asn Ala Ile Asp Tyr Tyr Pro  
 245 250 255  
 Trp Leu Phe Phe Phe Pro Ser Leu Ile Met Ile Ala Leu Ser Ile Ser  
 260 265 270

Phe Asn Leu Ile Gly Glu Gly Ala Lys Thr Leu Cys Leu Glu Glu Gly  
 275 280 285  
 Ser His Gly  
 290

<210> 203  
 <211> 302  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 203  
 Ala Ser Ile Ser Ser Ala Arg Gly Leu Lys His Tyr Val Ser Lys Arg  
 1 5 10 15  
 Asp Leu Met Asp Asn Tyr Leu Leu Asn Ile Lys Asp Leu Thr Ile Thr  
 20 25 30  
 Ser Thr Asn Pro Lys Arg Thr Leu Ile Glu Asn Leu Ser Leu Gln Leu  
 35 40 45  
 Lys Glu Asn Arg Asn Leu Ala Leu Val Gly Glu Ser Gly Ser Gly Lys  
 50 55 60  
 Thr Thr Ile Thr Lys Ala Ile Leu Gly Phe Leu Pro Glu Asn Cys Leu  
 65 70 75 80  
 Ile Lys Thr Gly Ser Ile Leu Phe Glu Asp Ile Asp Ile Thr Lys Leu  
 85 90 95  
 Ser Pro Lys Glu Leu His Lys Ile Arg Gly Gln Lys Ile Ala Thr Ile  
 100 105 110  
 Leu Gln Asn Ala Met Gly Ser Leu Thr Pro Ser Met Arg Ile Gly Met  
 115 120 125  
 Gln Ile Ile Glu Thr Leu Arg Gln His His Lys Met Asn Lys Glu Glu  
 130 135 140  
 Ala Tyr Asn Lys Ala Met Gln Leu Leu Thr Asp Val Cys Ile Pro Asn  
 145 150 155 160  
 Pro Lys Tyr Ser Phe Ser Gln Tyr Pro Phe Glu Leu Ser Gly Gly Met  
 165 170 175  
 Arg Gln Arg Val Val Ile Ala Ile Ala Leu Ala Ser Gln Pro Lys Leu  
 180 185 190  
 Ile Leu Ala Asp Glu Pro Thr Thr Ala Leu Asp Ser Met Ser Gln Ala  
 195 200 205  
 Gln Val Leu Arg Ile Leu Arg Asn Ile Gln Gln Gln Lys Gln Ala Thr  
 210 215 220  
 Ile Leu Leu Val Thr His Asn Leu Ser Leu Val Lys Glu Leu Cys Asn  
 225 230 235 240  
 Asp Ile Cys Ile Ile Lys Asp Gly Lys Leu Ile Glu Thr Gly Thr Val  
 245 250 255  
 Glu Glu Ile Phe Leu Ser Pro Lys His Pro Tyr Thr Leu Lys Leu Leu  
 260 265 270  
 Asn Ala Val Ser Lys Ile Pro Ile Lys Lys Thr Ser Ser Pro Ile Leu  
 275 280 285  
 Lys Asn Lys Phe Gln Pro Leu Met Ser Met Gln Gly Gly Leu  
 290 295 300

<210> 204  
 <211> 273  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 204  
 Val Pro Thr Ser Asn Glu Tyr Ala Arg Trp Phe Met Thr Thr Leu Leu  
 1 5 10 15  
 Ser Ile Lys Asp Leu Ser Leu Thr Ile Arg Gly Lys Lys Ile Leu Asn  
 20 25 30

His	Ile	Asn	Leu	Asn	Leu	Ile	Lys	Gly	Ser	Tyr	Leu	Thr	Ile	Val	Gly
		35					40					45			
Pro	Ser	Gly	Ser	Gly	Lys	Ser	Ser	Leu	Ala	Leu	Thr	Ile	Leu	Asp	Leu
	50					55					60				
Leu	Lys	Pro	Thr	Thr	Gly	Thr	Ile	Thr	Phe	His	Met	Asp	Pro	Lys	Ile
65					70					75					80
Pro	Arg	Ala	Arg	Lys	Val	Gln	Val	Ile	Trp	Gln	Asp	Ile	Asp	Ser	Ser
				85					90					95	
Leu	Asn	Pro	Cys	Met	Ser	Ile	Lys	Gly	Ile	Ile	Ser	Glu	Pro	Leu	Asn
			100					105					110		
Ile	Ile	Gly	Thr	Tyr	Ser	Lys	Ala	Glu	Gln	Asn	Lys	Glu	Ile	Tyr	Asn
		115					120						125		
Val	Leu	Asp	Leu	Val	Asn	Leu	Pro	Lys	Ser	Val	Leu	His	Leu	Lys	Pro
	130					135					140				
Tyr	Lys	Leu	Ser	Gly	Gly	Gln	Lys	Gln	Arg	Ile	Ala	Ile	Ala	Lys	Ala
145					150					155					160
Leu	Val	Ser	Lys	Pro	Glu	Leu	Leu	Ile	Cys	Asp	Glu	Pro	Leu	Ser	Ser
				165					170					175	
Leu	Asp	Thr	Leu	Asn	Gln	Ser	Leu	Ile	Leu	Asp	Leu	Phe	Gln	Thr	Ile
			180					185						190	
Lys	Lys	Glu	Tyr	Gln	Asn	Thr	Leu	Leu	Phe	Ile	Thr	His	Asp	Met	Ser
		195					200						205		
Ala	Ala	Tyr	Tyr	Ile	Ala	Asp	Thr	Ile	Ala	Val	Met	Asp	Gln	Gly	Ser
	210					215					220				
Leu	Val	Glu	His	Ala	Cys	Arg	Glu	Lys	Ile	Phe	Ser	Thr	Pro	Lys	His
225					230					235					240
Thr	Thr	Thr	Gln	Asp	Leu	Leu	Asp	Ala	Ile	Pro	Ile	Phe	Ser	Leu	Ile
				245					250					255	
Ser	Thr	Glu	Met	Glu	Pro	Ser	Glu	Glu	Tyr	Glu	Leu	Gln	Val	Ala	Ser
			260					265					270		

Lys

<210> 205  
 <211> 279  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 205

Ile	Val	Pro	Leu	Pro	Gln	Lys	Asn	Asn	Lys	Glu	Thr	Ser	Cys	Met	Asn
1				5					10					15	
Thr	Tyr	Thr	Phe	Ser	Pro	Thr	Leu	Gln	Lys	Ser	Phe	Ser	Leu	Phe	Leu
			20					25					30		
Leu	Glu	Lys	Leu	Asp	Ser	Tyr	Phe	Phe	Phe	Gly	Gly	Thr	Arg	Thr	Gln
		35					40					45			
Ile	Leu	Val	Ile	Thr	Pro	Thr	Asn	Ile	Arg	Leu	Ala	Ala	Lys	Lys	Arg
	50					55					60				
Gly	Cys	Lys	Val	Ser	Thr	Ile	Glu	Lys	Ile	Ile	Lys	Ile	Leu	Ser	Phe
65					70					75					80
Ile	Leu	Leu	Pro	Leu	Val	Ile	Ile	Ala	Phe	Ile	Leu	Arg	Tyr	Phe	Leu
				85					90					95	
His	Lys	Lys	Phe	Asp	Lys	Gln	Phe	Leu	Cys	Ile	Pro	Lys	Val	Ile	Ser
			100					105						110	
Asn	Glu	Asp	Glu	Ala	Leu	Leu	Gly	Ser	Arg	Pro	Gln	Ala	Val	Glu	Lys
		115					120					125			
Ala	Val	Arg	Glu	Ile	Ser	Pro	Ala	Phe	Phe	Ser	Ile	Pro	Arg	Lys	Tyr
	130					135					140				
Gln	Leu	Ile	Arg	Ile	Asp	Thr	Pro	Lys	Asp	Asp	Ala	Pro	Ser	Ile	Leu
145					150					155					160
Phe	Pro	Ile	Gly	Ile	Glu	Ile	Ile	Leu	Lys	Asp	Leu	Cys	Ile	Asp	Thr
				165					170					175	

Leu Lys Gln Ser Asn Leu Phe Leu Lys Arg Glu Met Asp Phe Leu Gly  
                   180                  185                  190  
 His Pro Glu Lys Ala Leu Phe Asp Ser Ile Cys Ser Ile Glu Lys  
                   195                  200                  205  
 Asp Gln Glu Trp Met Ser Leu Glu Ser Lys Lys Leu Leu Ile Thr His  
                   210                  215                  220  
 Phe Leu Lys Tyr Leu Phe Val Ser Gly Ile Glu Gln Leu Asn Pro Gly  
 225                  230                  235                  240  
 Phe Asn Pro Glu Asn Gly Arg Gly Tyr Phe Ser Glu Ile Ser Thr Ala  
                   245                  250                  255  
 Lys Ile His Phe His Gln His Gly Arg Tyr Gly Pro Ile Arg Ser Ser  
                   260                  265                  270  
 Gly Pro Ile Met Lys Glu Ile  
                   275

<210> 206  
 <211> 104  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 206  
 Pro Arg Glu Trp Ala Trp Val Phe Phe Arg Asn Lys Tyr Ser Lys Asp  
   1                  5                  10                  15  
 Pro Phe Ser Ser Ala Arg Ser Ile Trp Ala Asn Pro Phe Phe Gly Thr  
                   20                  25                  30  
 His His Glu Gly Asn Ile Lys Ile Lys Gly Met Gly Tyr Gln Ile Phe  
                   35                  40                  45  
 Thr Arg Leu Lys Lys Leu Gly Ile Ser Phe Ser Ser Tyr Asn Ser Ile  
   50                  55                  60  
 Asn Pro Asn Pro Tyr Phe Phe Asp Glu Gly Cys Phe Val Tyr Trp Glu  
 65                  70                  75                  80  
 Ser Gln Phe Lys Ser Ala Leu Gln Asp His Gly Ile Leu Gln Lys Gln  
                   85                  90                  95  
 Thr Glu Thr Phe Tyr Arg Asn Thr  
                   100

<210> 207  
 <211> 85  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 207  
 Ile Glu Asp Ser Ile Lys Gly Tyr Gly Ser Ala Ser Ala Phe Arg Asn  
   1                  5                  10                  15  
 Pro Pro Gln Leu Leu Leu Lys Phe Phe Leu Val Cys Glu Glu Leu Cys  
                   20                  25                  30  
 Ile Leu Thr Val Ala Thr His Arg Ala Leu Leu Glu Thr Pro Leu Ala  
                   35                  40                  45  
 Leu Ser Phe Phe Lys Glu Leu Lys Thr Lys Tyr Val Tyr Arg Ala Lys  
   50                  55                  60  
 Asp Ile Leu Gln Leu His Asn Tyr Lys Gly Phe Thr Ile Leu Asn Thr  
 65                  70                  75                  80  
 Ser Pro Leu Cys Ser  
                   85

<210> 208  
 <211> 272  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 208

Ile	Val	Asp	Arg	Arg	Ser	Pro	Ala	Cys	Tyr	Asp	Ser	Ile	Asn	Ser	Asp
1				5					10					15	
Ala	Ile	Gly	Val	Ser	Leu	Leu	Met	Asp	Ile	Ser	His	Ile	Leu	Glu	Asp
		20						25					30		
Leu	Ala	Tyr	Asp	Glu	Gly	Ile	Leu	Pro	Arg	Glu	Ala	Ile	Glu	Ala	Ala
		35					40					45			
Ile	Val	Lys	Gln	Met	Gln	Ile	Thr	Pro	Tyr	Leu	Leu	His	Ile	Leu	His
	50				55						60				
Asp	Ala	Thr	Gln	Arg	Val	Pro	Glu	Ile	Val	Asn	Asp	Gly	Ser	Tyr	Gln
65				70					75					80	
Gly	His	Leu	Tyr	Ala	Met	Tyr	Leu	Leu	Ala	Gln	Phe	Arg	Glu	Ser	Arg
				85					90					95	
Ala	Leu	Pro	Leu	Ile	Ile	Lys	Leu	Phe	Ala	Phe	Glu	Asp	Asp	Thr	Pro
		100						105					110		
His	Ala	Ile	Ala	Gly	Asp	Val	Leu	Thr	Glu	Asp	Leu	Pro	Arg	Ile	Leu
	115						120					125			
Ala	Ser	Val	Cys	Asn	Asp	Asp	Ser	Leu	Ile	Lys	Glu	Leu	Ile	Glu	Thr
130					135						140				
Pro	Lys	Ile	Asn	Pro	Tyr	Val	Lys	Ala	Ala	Ala	Ile	Ser	Gly	Leu	Val
145				150					155					160	
Thr	Leu	Val	Gly	Ala	Gly	Lys	Ile	Pro	Arg	Asp	Lys	Val	Ile	Arg	Tyr
			165					170						175	
Phe	Ala	Glu	Leu	Leu	Asn	Tyr	Arg	Leu	Glu	Lys	Gln	Pro	Ser	Phe	Ala
		180						185					190		
Trp	Asp	Asn	Leu	Ile	Ala	Gly	Ile	Cys	Thr	Leu	Tyr	Pro	Gly	Glu	Leu
	195						200					205			
Phe	Tyr	Pro	Ile	Ser	Lys	Ala	Phe	Asp	Gly	Gly	Leu	Val	Asp	Thr	Ser
210					215					220					
Phe	Ile	Ser	Met	Glu	Asp	Val	Glu	Asn	Ile	Ile	His	Glu	Glu	Thr	Val
225				230						235				240	
Glu	Ser	Cys	Ile	His	Thr	Leu	Cys	Ser	Ser	Thr	Glu	Leu	Ile	Asn	Asp
			245						250					255	
Thr	Leu	Glu	Glu	Met	Glu	Lys	Trp	Leu	Glu	Asp	Phe	Pro	Ile	Glu	Pro
		260						265					270		

<210> 209

<211> 470

<212> PRT

<213> Chlamydia pneumoniae

<400> 209

Val	Asn	Lys	Lys	Lys	Arg	Phe	Leu	Ser	Leu	Leu	Phe	Leu	Thr	Ala	Val
1				5					10					15	
Leu	Leu	Gly	Ile	Trp	Phe	Ser	Pro	His	Pro	Ala	Ser	Ile	Asn	Ser	Asn
		20						25					30		
Ala	Trp	Gln	Leu	Phe	Ala	Ile	Phe	Thr	Thr	Thr	Ile	Met	Gly	Ile	Ile
		35					40					45			
Phe	Gln	Pro	Val	Pro	Met	Gly	Ala	Ile	Ala	Ile	Ile	Gly	Ile	Ser	Thr
50					55						60				
Leu	Leu	Leu	Thr	Gln	Thr	Leu	Thr	Leu	Glu	Gln	Gly	Leu	Ser	Gly	Phe
65				70						75				80	
His	Asn	Pro	Ile	Ala	Trp	Leu	Val	Phe	Leu	Ser	Phe	Ser	Ile	Ala	Lys
			85						90					95	
Gly	Ile	Ile	Lys	Thr	Gly	Leu	Gly	Glu	Arg	Ile	Ala	Tyr	Phe	Phe	Val
			100					105					110		
Ser	Ala	Leu	Gly	Lys	Ser	Pro	Leu	Gly	Leu	Ser	Tyr	Gly	Leu	Val	Ile
		115					120					125			
Thr	Asp	Phe	Phe	Leu	Ala	Pro	Ala	Ile	Pro	Ser	Val	Thr	Ala	Arg	Ala
130						135					140				

Gly Gly Ile Leu Tyr Pro Val Val Thr Ser Leu Ser Asp Ser Phe Gly  
 145 150 155 160  
 Ser Ser Ala Glu Lys Gly Thr Gln Asp Leu Ile Gly Ser Phe Leu Ile  
 165 170 175  
 Lys Val Ala Tyr Gln Ser Ser Val Ile Thr Ser Ala Met Phe Leu Thr  
 180 185 190  
 Ala Met Ala Gly Asn Pro Leu Val Ala Ala Leu Ala Gly His Val Gly  
 195 200 205  
 Val Ser Leu Ser Trp Val Leu Trp Ala Lys Ala Ala Ile Ile Pro Gly  
 210 215 220  
 Leu Pro Ser Leu Phe Leu Met Pro Ile Ile Leu Tyr Lys Leu Tyr Pro  
 225 230 235 240  
 Pro Lys Ile Thr Ser Cys Glu Glu Ala Ile Arg Ser Ala Lys Leu Arg  
 245 250 255  
 Leu Lys Glu Met Gly Pro Leu Lys Lys Glu Glu Lys Thr Ile Leu Met  
 260 265 270  
 Ile Phe Phe Leu Leu Val Val Leu Trp Thr Phe Gly Asp Leu Leu Gly  
 275 280 285  
 Ile Ser Ala Thr Thr Ala Ala Leu Ile Gly Leu Ser Leu Leu Ile Leu  
 290 295 300  
 Thr Asn Ile Leu Asp Trp Gln Lys Asp Val Ile Ala Asn Thr Thr Ala  
 305 310 315 320  
 Trp Glu Thr Phe Ile Trp Phe Gly Ala Leu Ile Met Met Ala Ser Phe  
 325 330 335  
 Leu Asn Gln Leu Gly Phe Ile Pro Leu Val Gly Asp Ser Ala Ala Ala  
 340 345 350  
 Leu Val Ser Gly Leu Ser Trp Lys Ile Gly Phe Pro Leu Leu Phe Leu  
 355 360 365  
 Ile Tyr Phe Tyr Ser His Tyr Leu Phe Ala Ser Asn Thr Ala His Ile  
 370 375 380  
 Gly Ala Met Tyr Pro Ile Phe Leu Ala Val Ser Ile Ser Leu Gly Thr  
 385 390 395 400  
 Asn Pro Ile Phe Ala Ala Leu Thr Leu Ala Phe Ala Ser Asn Leu Phe  
 405 410 415  
 Gly Gly Leu Thr His Tyr Gly Ser Gly Pro Ala Pro Leu Tyr Phe Gly  
 420 425 430  
 Ser His Leu Val Thr Val Gln Glu Trp Trp Arg Ser Gly Phe Ala Leu  
 435 440 445  
 Ser Ile Val Asn Ile Val Ile Trp Ile Gly Ile Gly Ser Leu Trp Trp  
 450 455 460  
 Lys Ala Leu Gly Leu Ile  
 465 470

<210> 210  
 <211> 556  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 210  
 Ser Val Ala Val Ile Leu Met His Pro Leu Tyr Val Asp Leu Asp Thr  
 1 5 10 15  
 Ile Ile Ser Ser Tyr Ser Pro Pro Leu Pro Lys Glu Phe Gln Glu Ala  
 20 25 30  
 Ala Ser Leu Ile Ala Val Pro Asp Thr Ser His Ser Lys Pro Val Val  
 35 40 45  
 Pro Gly Val Lys Thr Leu Phe Pro Gln Thr Tyr His Leu Pro Tyr Leu  
 50 55 60  
 Lys Phe Val Gln Gly Glu Asn Val Val His Thr Pro Leu Lys Val Gly  
 65 70 75 80  
 Val Met Phe Ser Gly Gly Pro Ala Pro Gly Gly His Asn Val Ile Gln  
 85 90 95

Gly Leu Phe Asn Ser Leu Lys Asp Phe His Pro Asp Ser Ser Leu Val  
 100 105 110  
 Gly Phe Val Asn Asn Gly Asp Gly Leu Thr Asn Asn Lys Ser Ile Asp  
 115 120 125  
 Ile Thr Glu Glu Phe Leu Ser Lys Phe Arg Asn Ser Gly Gly Phe Asn  
 130 135 140  
 Cys Ile Gly Thr Gly Arg Lys Lys Ile Val Thr Pro Glu Ala Lys Glu  
 145 150 155 160  
 Ala Cys Leu Lys Thr Ala Glu Ala Leu Asp Leu Asp Gly Leu Val Ile  
 165 170 175  
 Ile Gly Gly Asp Gly Ser Asn Thr Ala Thr Ala Ile Leu Ala Glu Tyr  
 180 185 190  
 Phe Ala Lys Arg Arg Pro Lys Thr Ser Ile Val Gly Val Pro Lys Thr  
 195 200 205  
 Ile Asp Gly Asp Leu Gln His Thr Phe Leu Asp Leu Thr Phe Gly Phe  
 210 215 220  
 Asp Thr Ala Thr Lys Phe Tyr Ser Ser Ile Ile Ser Asn Ile Ser Arg  
 225 230 235 240  
 Asp Ala Leu Ser Cys Lys Ala His Tyr His Phe Ile Lys Leu Met Gly  
 245 250 255  
 Arg Ser Ala Ser His Ile Ala Leu Glu Cys Ala Leu Gln Thr His Pro  
 260 265 270  
 Asn Ile Ala Leu Ile Gly Glu Glu Ile Ala Glu Lys Asn Leu Pro Leu  
 275 280 285  
 Lys Thr Ile Ile His Lys Ile Cys Ser Val Ile Ala Asp Arg Ala Ala  
 290 295 300  
 Met Glu Lys Tyr Tyr Gly Val Ile Leu Ile Pro Glu Gly Ile Ile Glu  
 305 310 315 320  
 Phe Ile Pro Glu Ile Ile Asn Leu Ile Thr Glu Ile Glu Ser Leu Ser  
 325 330 335  
 Glu Tyr Glu Asp Lys Ile Ser Arg Leu Ser Pro Glu Ser Gln Arg Leu  
 340 345 350  
 Leu Lys Ser Phe Pro Ala Pro Ile Ile Glu Gln Ile Leu Asn Asp Arg  
 355 360 365  
 Asp Ala His Gly Asn Val Tyr Val Ser Lys Ile Ser Val Asp Lys Leu  
 370 375 380  
 Leu Ile His Leu Val Ser Asn His Leu Gln Gln Tyr Phe Pro Asn Val  
 385 390 395 400  
 Pro Phe Asn Ala Ile Ser His Phe Leu Gly Tyr Glu Gly Arg Ser Gly  
 405 410 415  
 Leu Pro Thr Lys Phe Asp Asn Thr Tyr Gly Tyr Ser Leu Gly Tyr Gly  
 420 425 430  
 Ala Gly Ile Leu Val Arg Asn His Cys Asn Gly Tyr Leu Ser Thr Ile  
 435 440 445  
 Glu Ser Leu Ala Cys Pro Phe Met Lys Trp Lys Leu Arg Ala Ile Pro  
 450 455 460  
 Val Val Lys Met Phe Thr Val Lys Gln Gln Ala Asp Gly Thr Leu Gln  
 465 470 475 480  
 Pro Lys Ile Lys Lys Tyr Leu Val Asp Ile Gly Ser Thr Ala Phe Arg  
 485 490 495  
 Lys Phe Lys Leu Tyr Arg Lys Ile Trp Ala Leu Glu Asp Ser Tyr Arg  
 500 505 510  
 Phe Leu Gly Pro Leu Gln Ile Glu Thr Pro Pro Glu Met His Ser Asp  
 515 520 525  
 Asn Phe Pro Pro Leu Thr Leu Leu Leu Asn His Asn Phe Trp Gln Arg  
 530 535 540  
 His Gln Gly Cys Ile Glu Ile Pro Asp Thr Thr Tyr  
 545 550 555



<210> 211  
 <211> 88  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 211  
 Asn Ser Ser Asn Asn Ile Arg Leu Lys Met Glu Thr Tyr Ser Phe Ser  
 1 5 10 15  
 Thr Glu Leu Gln Lys Asn Thr Ser Leu Tyr Ile Met Glu Lys Leu Asp  
 20 25 30  
 Ser Tyr Phe Ser Phe Gln Gly Lys Arg Thr Arg Val Ile Ala Ile Thr  
 35 40 45  
 Pro Ala Gly Leu Ala Ile Ala Tyr Glu Gln Asn Ile His Leu Ser Met  
 50 55 60  
 Thr Val Lys Ile Leu Lys Val Leu Ser Phe Pro Arg Ser Leu Leu Arg  
 65 70 75 80  
 Thr Thr Ser Leu Trp Tyr Arg Pro  
 85

<210> 212  
 <211> 340  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 212  
 Tyr Gln Lys Leu Trp Glu Arg Glu Arg Glu Tyr Phe Lys Thr Ile Arg  
 1 5 10 15  
 Glu Lys Glu His Ala Thr Ile Ser Thr Met Leu Val Glu Leu Glu Ala  
 20 25 30  
 Leu Lys Arg Glu Phe Ala His Leu Lys Asp Gln Lys Pro Thr Ser Asp  
 35 40 45  
 Gln Glu Ile Thr Ser Leu Tyr Gln Cys Leu Asp His Leu Glu Phe Val  
 50 55 60  
 Leu Leu Gly Leu Gly Gln Asp Lys Phe Leu Lys Ala Thr Glu Asp Glu  
 65 70 75 80  
 Asp Val Leu Phe Glu Ser Gln Lys Ala Ile Asp Ala Trp Asn Ala Leu  
 85 90 95  
 Leu Thr Lys Ala Arg Asp Val Leu Gly Leu Gly Asp Ile Gly Ala Ile  
 100 105 110  
 Tyr Gln Thr Ile Glu Phe Leu Gly Ala Tyr Leu Ser Lys Val Asn Arg  
 115 120 125  
 Arg Ala Phe Cys Ile Ala Ser Glu Ile His Phe Leu Lys Thr Ala Ile  
 130 135 140  
 Arg Asp Leu Asn Ala Tyr Tyr Leu Leu Asp Phe Arg Trp Pro Leu Cys  
 145 150 155 160  
 Lys Ile Glu Glu Phe Val Asp Trp Gly Asn Asp Cys Val Glu Ile Ala  
 165 170 175  
 Lys Arg Lys Leu Cys Thr Phe Glu Lys Glu Thr Lys Glu Leu Asn Glu  
 180 185 190  
 Ser Leu Leu Arg Glu Glu His Ala Met Glu Lys Cys Ser Ile Gln Asp  
 195 200 205  
 Leu Gln Arg Lys Leu Ser Asp Ile Ile Ile Glu Leu His Asp Val Ser  
 210 215 220  
 Leu Phe Cys Phe Ser Lys Thr Pro Ser Gln Glu Glu Tyr Gln Lys Asp  
 225 230 235 240  
 Cys Leu Tyr Gln Ser Arg Leu Arg Tyr Leu Leu Leu Tyr Glu Tyr  
 245 250 255  
 Thr Leu Leu Cys Lys Thr Ser Thr Asp Phe Gln Glu Gln Ala Arg Ala  
 260 265 270  
 Lys Glu Glu Phe Ile Arg Glu Lys Phe Ser Leu Leu Glu Leu Glu Lys  
 275 280 285

Gly Ile Lys Gln Thr Lys Glu Leu Glu Phe Ala Ile Ala Lys Ser Lys  
 290 295 300  
 Leu Glu Arg Gly Cys Leu Val Met Arg Lys Tyr Glu Ala Ala Ala Lys  
 305 310 315 320  
 His Ser Leu Asp Ser Met Phe Glu Glu Glu Thr Val Lys Ser Pro Arg  
 325 330 335  
 Lys Asp Thr Glu  
 340

<210> 213  
 <211> 101  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 213  
 Glu Cys Val Met Ser Tyr Pro Asp Ile Ser Asn Val Gln Ala Ser Ser  
 1 5 10 15  
 Ile Gln Ser Ala Leu Leu His Lys Thr Ser Asp Gln Ile Gln Gln Lys  
 20 25 30  
 Arg Cys Phe Lys Gln Ser Thr Phe Val Ile Leu Ala Val Ser Leu Val  
 35 40 45  
 Ile Ile Gly Ser Leu Phe Leu Leu Ala Gly Val Ala Ile Leu Thr Val  
 50 55 60  
 Phe Ser His Gly Val Leu Ser Leu Val Phe Gly Val Leu Gly Ile Val  
 65 70 75 80  
 Leu Gly Leu Leu Leu Leu Ala Gly Gly Val Gly Leu Leu Val Glu Glu  
 85 90 95  
 Ala Lys Ser Leu Leu  
 100

<210> 214  
 <211> 398  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 214  
 Glu Leu Ser Tyr Gly Val Val Val Ser Ile Tyr Ser Glu Ile Leu Ser  
 1 5 10 15  
 Phe Ser Glu Leu Thr Ser Cys Lys His Ser Leu Phe Pro Phe Gly Pro  
 20 25 30  
 Ile Glu Thr Ala Ser Ile Arg Ile His His Val Phe Asn Val Val Ile  
 35 40 45  
 Val Cys Leu Ile Ile Leu Gly Thr Leu Phe Val Cys Leu Gly Met Val  
 50 55 60  
 Phe Leu Gly Val Phe Ser Thr Tyr Leu Leu Gly Met Ser Ser Met Ile  
 65 70 75 80  
 Leu Gly Leu Leu Leu Ile Ser Ile Gly Leu Ala Leu Leu Lys Phe Lys  
 85 90 95  
 Glu Arg Tyr Gly Leu Glu Pro Lys Glu Leu Phe Gly Val Glu Gly Gly  
 100 105 110  
 Phe Asp Lys Lys Leu Pro Ser Glu Ile Ile Gln Met Gln Asp Gln Ile  
 115 120 125  
 Ala Asp Leu Ala Arg Glu Leu Asp Leu Glu Gln Lys Lys Asp Thr Leu  
 130 135 140  
 Ile Arg Gly Phe Ser Ala Arg Leu Asp Val Leu Glu Gly Ser Lys Thr  
 145 150 155 160  
 Glu Lys Lys Gln Ile Leu Lys Ile Gly Val Pro Arg Asn Leu Ser Glu  
 165 170 175  
 Ile Gln Glu Arg Ala Gln Glu Gln Asn Ser Ile Leu Glu Gln Cys Lys  
 180 185 190

Glu Ala Leu Leu Phe Arg Arg Lys Ser Ala Gln Glu Ile Phe Lys Lys  
           195                          200                          205  
 Leu Tyr Asp Arg Lys Ala Ala Phe Trp Arg Ser Tyr Arg Glu Asp Leu  
           210                          215                          220  
 Trp Cys Tyr Ser Glu Ile His Val Ser Lys Lys Ala Leu Ser Asn Leu  
           225                          230                          235                          240  
 Tyr Ile Gly Asp Val Phe Glu Gly Thr Ala Pro His Phe Leu Met Glu  
                           245                          250                          255  
 Ala Tyr Ala Met Cys Arg Thr Ala Lys Asn Leu Arg Asn Tyr Val Lys  
                           260                          265                          270  
 Val Cys Val Glu Asp Met Arg Val Asn Glu Glu Lys Lys Arg Ala Lys  
                           275                          280                          285  
 Gln Leu Ser Val Ser Glu Leu Cys Cys Cys Thr Glu Ile Glu Thr  
           290                          295                          300  
 Asp Leu Glu Asn Glu Thr Asn Leu Phe Thr Ser Asp Ser Glu Asp Val  
           305                          310                          315                          320  
 Leu Glu Glu Tyr Gln Ile His Cys Ile Arg Val Thr Met Leu His Ala  
                           325                          330                          335  
 Leu Trp Ala Ile Tyr Asn Asp Glu Val Val Ser Arg Lys Pro Ile Asp  
                           340                          345                          350  
 Thr Leu Asp Arg Val Arg Ala Arg Met Ala Val Glu Asp Cys Ile Glu  
                           355                          360                          365  
 Thr Phe Glu Glu Leu Gln Met Cys Val Val His Thr Lys Thr Leu Glu  
           370                          375                          380  
 Leu Glu Ile Ala Gln Leu Tyr Val Asp Ile Leu Leu Glu Ala  
           385                          390                          395

<210> 215  
 <211> 52  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 215  
 Ile Leu Val Val Phe Ser Arg Val Ile Phe Ser Asn Thr Asn Gln Ile  
   1                          5                          10                          15  
 Gly Ile Pro Arg Leu Glu Leu Ile Leu Pro Leu Trp Lys Lys Glu Asn  
           20                          25                          30  
 Asp Pro Phe Cys Phe Leu Phe Ser Arg Val Glu Gly Thr Phe Ile Ile  
           35                          40                          45  
 Leu Asn Ile Lys  
   50

<210> 216  
 <211> 441  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 216  
 Phe Leu Gly Leu Lys Glu Asp Tyr Glu Arg Pro Thr Tyr Cys Asn Ile  
   1                          5                          10                          15  
 Pro Pro Ala Pro His Pro Gln Arg Val Asp Ser Lys Gly Cys Ile Ala  
           20                          25                          30  
 Ser His Val Ser Thr Val Val Val Val Ala Leu Phe Ile Leu Gly Ile  
           35                          40                          45  
 Phe Phe Leu Ser Gly Ser Leu Ala Phe Leu Val His Thr Ser Cys Gly  
   50                          55                          60  
 Val Leu Leu Gly Ala Ala Leu Pro Ile Leu Cys Ile Gly Leu Val Leu  
   65                          70                          75                          80  
 Leu Ala Val Ala Leu Ile Val Phe Leu Cys His Lys His Lys Thr Arg  
                           85                          90                          95

Gln Asp Leu Asp Tyr Tyr Asp Gln Asp Leu Asp Ser Leu Val Ile His  
 100 105 110  
 Lys Lys Glu Ile Pro Asn Asp Ile Ser Glu Leu Arg Val Thr Phe Glu  
 115 120 125  
 Lys Leu Gln Asn Leu Phe Gln Phe His Thr Lys Asp Phe Ser Asp Leu  
 130 135 140  
 Ser Gln Glu Leu Gln Gly Lys Phe Ile Asn Cys Met Glu Lys Trp Leu  
 145 150 155 160  
 Thr Leu Glu Asp Glu Val Thr Lys Phe Leu Ile Val Arg Asp Arg Phe  
 165 170 175  
 Leu Glu Thr Arg Arg Asn Phe Thr Thr Phe Gly Glu Gln Val Lys Gly  
 180 185 190  
 Ile Gln Ser Asn Ile Phe Asp Leu His Glu Glu Lys Ser Ser Leu Tyr  
 195 200 205  
 Leu Glu Leu Tyr Arg Leu Arg Lys Asp Leu Gln Val Leu Leu Asn Phe  
 210 215 220  
 Phe Leu Leu Pro Pro Gly Ile Leu Lys Val Asp Tyr Asp Glu Ile Glu  
 225 230 235 240  
 Ala Ile Lys Gly Leu Phe Ile Arg Leu Thr Ser Arg Leu Asp Lys Leu  
 245 250 255  
 Asp Val Lys Ala Gln Glu Arg Lys Lys Phe Ile Asn Glu Met Ser Arg  
 260 265 270  
 Glu Phe Lys Glu Val Glu Lys Ala Phe Asp Ile Val Asp Arg Ala Thr  
 275 280 285  
 Lys Lys Leu Met Asp Arg Ala Lys Lys Glu Ser Pro Ala Arg Leu Phe  
 290 295 300  
 Met Gly Arg Thr Glu Ser Leu Leu Glu Met Lys Lys Asn Glu Glu Ala  
 305 310 315 320  
 Leu Lys Asn Gln Gly Leu Asp Pro Glu Asn Leu Ser His Pro Glu Leu  
 325 330 335  
 Phe Ser Pro Tyr Gln Gln Leu Leu Ile Leu Asn Tyr Leu Asn Ser Glu  
 340 345 350  
 Ile Val Leu His His Tyr Glu Phe Leu Ile Ser Gly Thr Val Thr Ser  
 355 360 365  
 Gly Leu Thr Leu Glu Glu Cys Glu Asn Arg Met Arg Ala Ala Ser Thr  
 370 375 380  
 Gly Leu Asn Ala Leu Leu Val Arg Lys Leu Gln Phe Arg Gly Ala Ile  
 385 390 395 400  
 Lys Ser Ala Tyr Phe Glu Lys Leu Thr Glu Ile Glu Lys Glu Leu Arg  
 405 410 415  
 Ser Leu Gln Asp Val Ile Lys Ser Leu Glu Leu Glu Leu Ile His Lys  
 420 425 430  
 Ile Lys Asp Ile Val Thr Glu Glu Thr  
 435 440

<210> 217

<211> 427

<212> PRT

<213> Chlamydia pneumoniae

<400> 217

Leu Thr Ser Ser Lys Lys Gln Val Met Ser Ser Ala Ile Ala Arg Asp  
 1 5 10 15  
 Cys Phe Pro Ser Pro Ser Pro Gln Pro Ser Ser Thr Leu Gly Val His  
 20 25 30  
 Pro Pro Lys Tyr Lys Ser Leu Ile Leu Ser Val Ser Leu Ile Val Leu  
 35 40 45  
 Gly Val Leu Leu Leu Cys Val Gly Met Leu Leu Leu Val Asn Ala Ile  
 50 55 60  
 Phe Ser Phe Ser Val Leu Thr Val Gly Leu Gly Gly Ala Gly Val Phe  
 65 70 75 80

Leu Gly Ser Leu Leu Leu Ile Leu Gly Leu Ile Phe Phe Val Ser Tyr  
 85 90 95  
 His Arg Lys Leu Ser Glu Ala Thr Arg Ser Leu Glu Gln Lys Ile Thr  
 100 105 110  
 Leu Glu Tyr Gln Pro Trp Ala Asp Leu Arg Lys Glu Leu Asn Glu Val  
 115 120 125  
 Gln Glu Trp Ser Asn Phe Leu Leu Asp Glu Trp Glu Asp Phe Lys Glu  
 130 135 140  
 Val Val Ala Gln His Lys Ser Gln Phe Ala Thr Phe Glu Gly Asp Leu  
 145 150 155 160  
 Leu Leu Phe Gly Arg Glu Val Glu Lys Tyr Glu Thr Ile Trp Lys Glu  
 165 170 175  
 Leu Asp Gly Arg Asp Val Ala Leu Leu Thr Glu Leu Lys Asn Ile Trp  
 180 185 190  
 Gly Pro Leu Glu Phe Leu Arg Lys Lys Gly Asp Arg Leu Gln Cys Glu  
 195 200 205  
 Ile Asp Lys Leu Arg Lys Glu Val Met Lys Val Gly Lys Ser Gly Leu  
 210 215 220  
 Lys Leu Ala Cys Glu Leu Thr Lys Phe Lys Ser Ala Leu Lys Asp Val  
 225 230 235 240  
 Lys Ile Glu Gln Glu Cys Tyr Arg Asp Lys Arg Lys Val Glu Lys Leu  
 245 250 255  
 Glu Val Phe Pro Glu Gly Tyr Arg Arg Glu Leu Leu Glu Val Leu Lys  
 260 265 270  
 Thr Arg Leu Ser Val Glu Lys Glu Ile Gln Leu Phe Glu Glu Val Val  
 275 280 285  
 Ser Ala Phe Glu Glu Lys Leu Ala Ser Leu His Arg Thr Val Phe Ser  
 290 295 300  
 Glu Glu Glu Leu Gln Glu Ala Leu Asp Lys Ala Lys Ala Glu Leu Leu  
 305 310 315 320  
 Asp Ile Gln Val Arg Lys Ser Val Val Glu Asp Leu Ser Cys Glu Pro  
 325 330 335  
 Thr Leu Ile Gln Tyr His Leu Leu Arg Leu Tyr Glu Val Gln Cys Arg  
 340 345 350  
 Ile Val Glu Gln Phe Leu Thr Gln Thr Phe Ser Ser Glu Gln Glu Lys  
 355 360 365  
 Val Leu Glu Glu Tyr Glu Ala Leu Lys Ala Arg Ile Arg Lys Thr Leu  
 370 375 380  
 Arg Val Lys Leu Asp Gln Val Arg Ala Asn Val Ala Phe Val Ala Ser  
 385 390 395 400  
 Thr Thr Asp Leu Leu Ser Glu Ser Glu Ser Leu Asp Gly Asn Asp Ser  
 405 410 415  
 Val Phe Glu Asp Ala His Asp Asp Phe Leu Asp  
 420 425

<210> 218

<211> 150

<212> PRT

<213> Chlamydia pneumoniae

<400> 218

Asn Lys Ala Arg Thr Met Asn Pro Val Thr Phe Asp Arg Ile Gln Val  
 1 5 10 15  
 Asp Phe Ile Pro Glu Asp Thr Ser Leu Arg Ile Asn Ser Tyr Ile Val  
 20 25 30  
 Ala Gly Gly Leu Leu Ile Leu Gly Val Val Leu Ser Ile Leu Ser Val  
 35 40 45  
 Ile Cys Leu Asp Ile Gly Leu Val Gly Leu Ser Ala Gly Ala Ala Phe  
 50 55 60  
 Thr Leu Gly Leu Gly Cys Leu Ile Phe Ala Leu Phe Leu Phe Ser Phe  
 65 70 75 80

Ser Leu Ile Leu Leu Leu Ser Gln Glu Lys Arg Val Pro Asp Val Leu  
85 90 95  
Ser Leu Tyr Leu Glu Lys Glu Val Pro Gln Tyr Glu Thr Pro Leu Tyr  
100 105 110  
Lys Glu Asp Leu Glu Ser Glu Arg Asp Met Ser Ala Ile Ser Glu Arg  
115 120 125  
Leu Gly Ile Ile Glu Glu Lys Leu Arg Ile Ala Glu Lys Phe Arg Tyr  
130 135 140  
Ser Asp Ser Val Phe Val  
145 150

<210> 219  
<211> 233  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 219  
Pro Lys Cys Cys Lys Leu Lys Gly Phe Leu Ser Val Asn Glu Leu Ile  
1 5 10 15  
Phe Gly Phe Gln Thr Phe Ser Val Val Leu Gly Val Phe Phe Ala  
20 25 30  
Ser Arg Gly Lys Ala Trp Leu Thr Gly Trp Leu Ser Leu Leu Ser Ser  
35 40 45  
Ile Met Asn Val Phe Val Leu Lys Gln Ile His Leu Trp Gly Phe Glu  
50 55 60  
Val Thr Ser Ala Asp Val Tyr Val Ile Gly Leu Leu Thr Cys Leu Asn  
65 70 75 80  
Tyr Ala Arg Glu His Tyr Glu Lys Asn Asp Ile Asn Asp Ala Met Leu  
85 90 95  
Cys Ser Trp Val Ile Ser Ile Ala Phe Leu Val Leu Thr Gln Leu His  
100 105 110  
Leu Phe Leu Ile Pro Ser Pro Asn Asp Ser Ser Gln Glu His Phe Leu  
115 120 125  
Ala Leu Phe Ser Ser Thr Pro Arg Ile Val Val Ala Ser Leu Val Thr  
130 135 140  
Leu Ile Phe Val Gln Ile Val Asp Ile Lys Leu Phe Thr Phe Leu Gln  
145 150 155 160  
Arg Val Phe Ser Lys Lys Tyr Phe Ala Met Arg Ser Thr Ile Ser Leu  
165 170 175  
Leu Phe Ser Gln Leu Ile Asp Thr Ile Ile Phe Ser Phe Leu Gly Leu  
180 185 190  
Tyr Gly Leu Val Ser Asn Leu Cys Asp Val Met Ile Phe Ala Met Leu  
195 200 205  
Val Lys Gly Ile Val Ile Thr Leu Ala Ile Pro Thr Leu Thr Val Thr  
210 215 220  
Lys Ala Val Leu Asp Arg Arg Ser Ser  
225 230

<210> 220  
<211> 161  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 220  
Ile Phe Leu Ser Lys Lys Val Phe Phe Glu Ser Tyr Glu Asp Phe Ala  
1 5 10 15  
Asn Val Ala Ser Ser Trp Pro Lys Ser Leu Arg Ala Leu Val Gln Gly  
20 25 30  
Arg Tyr Phe Val Asp Ser Glu Leu Lys Glu Thr Pro Tyr Arg Ile His  
35 40 45

Asp	Phe	Lys	Lys	Thr	Pro	Ile	His	His	Arg	Leu	Tyr	Arg	Ser	Leu	Pro
50						55				60					
Ile	Ile	Ser	Thr	Ile	Gly	Gly	Ile	Ile	Arg	Leu	Ile	Glu	Ala	His	Ser
65					70					75				80	
Gly	Pro	Ile	His	Pro	Arg	Asp	Lys	Met	Lys	Tyr	Arg	Phe	Glu	Val	Leu
			85						90					95	
Gln	Ala	Val	Ile	Glu	Ile	Leu	Gly	Leu	Gly	Val	Leu	Ile	Leu	Val	Phe
			100					105					110		
Asp	Ile	Ile	Gly	Cys	Phe	Leu	Ala	Phe	Leu	Val	Ala	Ile	Ile	Leu	Ser
			115				120					125			
Leu	Leu	Leu	Tyr	Cys	Asn	Ser	Thr	Phe	Thr	Cys	Val	Gln	Asn	Leu	Ser
			130			135					140				
Phe	Thr	Glu	Arg	Met	Leu	Glu	Gly	Ile	Gly	Glu	Ala	Val	Asn	Phe	Leu
145					150					155					160
Ala															

<210> 221  
 <211> 375  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 221															
Gly	Ser	Ser	Leu	Ala	Leu	Lys	Phe	His	Leu	Ile	His	Gln	Ser	Lys	Lys
1				5					10					15	
Ser	Gln	Ala	Arg	Val	Gly	Gln	Ile	Glu	Thr	Ser	His	Gly	Val	Ile	Asp
			20					25					30		
Thr	Pro	Ala	Phe	Val	Pro	Val	Ala	Thr	His	Gly	Ala	Leu	Lys	Gly	Val
			35				40					45			
Ile	Asp	His	Ser	Asp	Ile	Pro	Leu	Leu	Phe	Cys	Asn	Thr	Tyr	His	Leu
			50			55				60					
Leu	Leu	His	Pro	Gly	Pro	Glu	Ala	Val	Ala	Lys	Leu	Gly	Gly	Leu	His
65				70					75					80	
Gln	Phe	Met	Gly	Arg	Gln	Ala	Pro	Ile	Ile	Thr	Asp	Ser	Gly	Gly	Phe
			85						90					95	
Gln	Ile	Phe	Ser	Leu	Ala	Tyr	Gly	Ser	Val	Ala	Glu	Glu	Ile	Lys	Ser
			100				105						110		
Cys	Gly	Lys	Lys	Lys	Gly	Met	Ser	Ser	Leu	Val	Lys	Ile	Thr	Asp	Glu
			115				120					125			
Gly	Ala	Trp	Phe	Lys	Ser	Tyr	Arg	Asp	Gly	Arg	Lys	Leu	Phe	Leu	Ser
			130			135				140					
Pro	Glu	Leu	Ser	Val	Gln	Ala	Gln	Lys	Asp	Leu	Gly	Ala	Asp	Ile	Ile
145				150					155					160	
Ile	Pro	Leu	Asp	Glu	Leu	Leu	Pro	Phe	His	Thr	Asp	Gln	Glu	Tyr	Phe
			165						170					175	
Leu	Thr	Ser	Cys	Ser	Arg	Thr	Tyr	Val	Trp	Glu	Lys	Arg	Ser	Leu	Glu
			180				185						190		
Tyr	His	Arg	Lys	Asp	Pro	Arg	His	Gln	Ser	Met	Tyr	Gly	Val	Ile	His
			195			200						205			
Gly	Gly	Leu	Asp	Pro	Glu	Gln	Arg	Arg	Ile	Gly	Val	Arg	Phe	Val	Glu
			210			215					220				
Asp	Glu	Pro	Phe	Asp	Gly	Ser	Ala	Ile	Gly	Gly	Ser	Leu	Gly	Arg	Asn
225				230					235					240	
Leu	Gln	Glu	Met	Ser	Glu	Val	Val	Lys	Ile	Thr	Thr	Ser	Phe	Leu	Ser
			245						250					255	
Lys	Glu	Arg	Pro	Val	His	Leu	Leu	Gly	Ile	Gly	Asp	Leu	Pro	Ser	Ile
			260				265						270		
Tyr	Ala	Met	Val	Gly	Phe	Gly	Ile	Asp	Ser	Phe	Asp	Ser	Ser	Tyr	Pro
			275			280						285			
Thr	Lys	Ala	Ala	Arg	His	Gly	Leu	Ile	Leu	Ser	Lys	Ala	Gly	Pro	Ile
			290			295					300				

Lys Ile Gly Gln Gln Lys Tyr Ser Gln Asp Ser Ser Thr Ile Asp Pro  
 305 310 315 320  
 Ser Cys Ser Cys Leu Thr Cys Leu Ser Gly Ile Ser Arg Ala Tyr Leu  
 325 330 335  
 Arg His Leu Phe Lys Val Arg Glu Pro Asn Ala Ala Ile Trp Ala Ser  
 340 345 350  
 Ile His Asn Leu His His Met Gln Gln Val Met Lys Glu Ile Arg Glu  
 355 360 365  
 Ala Ile Leu Lys Asp Glu Ile  
 370 375

<210> 222  
 <211> 193  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 222  
 Phe Tyr Ser Phe Leu Lys Lys Lys Gly Ile Phe Tyr Met Ser Lys Glu  
 1 5 10 15  
 Ser Ile Arg Ser Tyr Ser Glu Ile Ser Thr Pro Thr Pro Ile Phe Arg  
 20 25 30  
 Glu Thr Pro Ser Lys Glu Gly Val Ala Tyr Lys Leu Gln Leu Arg Ser  
 35 40 45  
 Pro Ala Lys Asp Cys Ile Leu Arg Asn Arg Val Ser Leu Lys Gly Ala  
 50 55 60  
 Leu Leu Arg Ser Ile Pro Phe Tyr Gly Ser Phe Leu Gly Ala Lys Arg  
 65 70 75 80  
 Ile His Ser Ala Trp Ser Ala Lys Asp Ala Pro Cys Thr Thr Arg Val  
 85 90 95  
 Tyr His Tyr Leu Val Gly Gly Leu Glu Leu Leu Gly Leu Gly Val Val  
 100 105 110  
 Val Leu Ala Cys Lys Val Leu Ala Thr Ala Leu Lys Phe Leu Phe Ser  
 115 120 125  
 Lys Ala Ser Ser Lys Ile Lys Gln Met Lys Trp Arg Glu Lys Ala Arg  
 130 135 140  
 Asn Leu Ala Ala Lys Asp Thr Val Gln Ser Ile Lys Glu Phe Cys Ser  
 145 150 155 160  
 Val Asp Leu Thr Ser Cys Phe Thr Arg Cys Phe Arg Leu Arg Asn Arg  
 165 170 175  
 Val Val Glu Glu Gly Ala Ser Glu Asn Gln Thr Val Arg Glu Ile Ile  
 180 185 190  
 Val

<210> 223  
 <211> 148  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 223  
 Asp Ala Leu Arg Tyr Lys Tyr Glu Ile Gly Ile Gln Met Val Asn Arg  
 1 5 10 15  
 Tyr Lys Ser Ser Ala Glu Phe Ser Ala Asp His Tyr Tyr Asp Asp Asn  
 20 25 30  
 Leu Val Arg Met Gly Tyr Lys Arg Asn Leu Arg Gly Leu Ala Pro Val  
 35 40 45  
 Glu Asn Glu Val Cys Leu Phe Glu Glu Asn Asn Leu Leu Glu Ser Val  
 50 55 60  
 Met Ala Ser Ile Pro Ile Met Gly Ser Ile Leu Gly Leu Gly Arg Leu  
 65 70 75 80



His Ser Val Trp Ser Thr Gln Asp Pro Lys Asp Ser Lys Ile Ser Ile  
                     85                    90                    95  
 Ile Phe His Thr Ala Leu Gly Ile Leu Glu Thr Leu Gly Leu Gly Ile  
                     100                    105                    110  
 Ile Val Leu Leu Ile Lys Ile Thr Ile Thr Ile Leu Leu Ile Leu Phe  
                     115                    120                    125  
 Thr Pro Cys Leu Leu Cys Tyr Phe Met Tyr Ser Ala Ala Tyr Ser Asp  
                     130                    135                    140  
 Phe His Pro Ile  
 145

<210> 224  
 <211> 123  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 224  
 Gly Glu Lys Phe Leu Lys Pro Trp Glu Lys Leu Arg Glu Leu Asn Ala  
   1                    5                    10                    15  
 Phe Glu Leu Thr Gln Pro Glu Glu Tyr Arg Asn Arg Trp Val Leu Met  
                     20                    25                    30  
 Pro Cys Leu Lys Cys Arg Phe Cys Arg Thr Gln His Ala Lys Val Trp  
                     35                    40                    45  
 Ser Tyr Arg Cys Val His Glu Ala Ser Leu Tyr Glu Lys Asn Cys Phe  
                     50                    55                    60  
 Leu Thr Leu Thr Tyr Asp Asp Lys His Leu Pro Gln Tyr Gly Ser Leu  
   65                    70                    75                    80  
 Val Lys Leu His Leu Gln Leu Phe Leu Lys Arg Leu Arg Lys Met Ile  
                     85                    90                    95  
 Ser Pro His Lys Ile Arg Tyr Phe Glu Cys Gly Ala Tyr Gly Thr Lys  
                     100                    105                    110  
 Leu Gln Arg Pro His Tyr His Leu Leu Leu Ser  
                     115                    120

<210> 225  
 <211> 128  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 225  
 Ser Thr Met Leu Ile Gly Arg Tyr Ser Ser Asp Asp Gln Phe Thr Glu  
   1                    5                    10                    15  
 Ala Thr Lys Asn Thr Pro Thr Ile Ile Lys Leu Gly Phe Val Arg Asp  
                     20                    25                    30  
 Asn Leu Glu Gly Leu Thr Asn Pro Ile Ser Glu Ile Val Ser Glu Thr  
                     35                    40                    45  
 Ser Ser Ser Ile Lys Asp Ser Val Leu Arg Ser Leu Pro Ile Leu Gly  
                     50                    55                    60  
 Ser Ile Leu Gly Cys Ala Arg Leu Tyr Ser Thr Leu Ser Thr Asn Asp  
   65                    70                    75                    80  
 Pro Leu Asp Glu Thr Gln Glu Lys Ile Trp His Thr Ile Phe Gly Ala  
                     85                    90                    95  
 Leu Glu Thr Leu Gly Leu Gly Ile Leu Ile Leu Leu Phe Lys Ile Ile  
                     100                    105                    110  
 Phe Val Ile Leu His Cys Ile Phe His Leu Val Ile Gly Phe Cys Lys  
                     115                    120                    125

<210> 226  
 <211> 91  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 226

Tyr	Thr	Phe	Lys	Asn	Pro	Lys	Lys	Asn	Lys	Lys	Met	Lys	Pro	Asn	Ser
1				5					10					15	
Ile	Ile	Phe	Leu	Glu	Asn	Thr	Lys	His	Tyr	Pro	Asp	Ile	Phe	Arg	Glu
			20					25					30		
Gly	Phe	Val	Arg	Asp	Arg	His	Gly	Leu	Met	Glu	Ala	Ser	Asp	Trp	Leu
		35					40					45			
Leu	Ser	Thr	Glu	Ile	Thr	Ile	Ile	Arg	Ser	Ile	Leu	Gly	Ala	Ile	Pro
		50				55					60				
Ile	Leu	Gly	Asn	Ile	Leu	Gly	Ala	Gly	Arg	Leu	Tyr	Ser	Val	Trp	Tyr
65					70					75					80
Thr	Ser	Asp	Glu	Asp	Trp	Lys	Lys	Gln	Val	Val					
				85					90						

<210> 227

<211> 232

<212> PRT

<213> Chlamydia pneumoniae

<400> 227

Asn	Ser	Phe	Thr	Ile	Lys	Phe	Leu	Leu	Met	Thr	Lys	Asn	Ala	Ile	Asn
1				5					10					15	
Ser	Gln	Thr	Thr	Thr	Pro	Gln	Pro	Asn	Leu	Thr	Asp	Ala	Glu	Pro	Ile
			20					25					30		
Ala	Ser	Arg	Ala	Gln	Cys	Lys	Ser	Ile	Ala	Val	Ile	Ile	Ser	Leu	Phe
		35					40					45			
Ala	Leu	Gly	Met	Leu	Leu	Leu	Cys	Leu	Gly	Ile	Ile	Leu	Ile	Ser	Ile
		50				55					60				
Pro	Ile	Pro	Gly	Leu	Ala	Ala	Gln	Val	Ala	Leu	Gly	Leu	Gly	Ile	Val
65					70				75						80
Ser	Leu	Ile	Leu	Gly	Ile	Ala	Leu	Ala	Asn	Ile	Gly	Phe	Leu	Cys	Leu
				85					90					95	
Leu	Leu	Arg	Cys	Lys	Gln	Val	Pro	Gln	Lys	Pro	Asp	Thr	Leu	Pro	Ser
			100					105					110		
Glu	Ser	Ser	Lys	Gln	Pro	Ser	Glu	Gly	Ser	Thr	Pro	Thr	Ala	Leu	Pro
		115					120					125			
Trp	Gln	Ala	Gly	Glu	Phe	Leu	Glu	Lys	Val	Gln	Val	Ser	Ala	Thr	Pro
		130				135					140				
Ile	Leu	Leu	Pro	Lys	Asn	Lys	Asp	Glu	Glu	Leu	Ser	Ala	Lys	Val	Met
145					150					155					160
Lys	Glu	Gly	Ala	Glu	Ala	Ala	Ser	Ser	Ile	Lys	Gln	Ala	Val	Leu	Glu
			165						170					175	
Ser	Thr	Glu	Lys	Leu	Ile	Asp	Ala	Arg	Lys	Gln	Glu	Glu	Ser	Arg	Arg
		180					185						190		
Glu	Ala	Arg	Lys	Lys	Ile	Val	Ala	Glu	Glu	Ala	Glu	Ala	Ser	Arg	Lys
		195					200					205			
Arg	Ile	Gln	Gln	Gln	Met	Ala	Ala	Asp	Gln	Glu	Ala	Leu	Arg	Lys	Arg
	210				215						220				
Lys	Glu	Glu	Val	Ala	Lys	Arg	Lys								
225					230										

<210> 228

<211> 141

<212> PRT

<213> Chlamydia pneumoniae

<400> 228

Ala	Ile	Phe	Asn	Arg	Lys	Arg	Met	Pro	Tyr	Tyr	Ala	Asn	Thr	Leu	Glu
1				5					10					15	
Phe	Ile	Gln	Gly	Thr	Gln	Ser	Leu	Cys	Pro	Leu	Phe	Lys	Tyr	Gly	Phe
		20						25					30		

Val Arg His His Tyr Lys Gly Gln Leu Glu Ile Glu Asp Ala Ser His  
           35                          40                          45  
 Asp Trp Asp Phe Leu Glu Pro Pro Ser Thr Trp Lys Arg Thr Leu Leu  
       50                          55                          60  
 Ala Ala Ile Pro Ile Leu Gly Ser Val Ile Gly Leu Gly Arg Leu Phe  
 65                          70                          75                          80  
 Ser Ile Trp Ser Ile Arg Glu Pro Gln Asp Ser Gln Glu Tyr Lys Ser  
                           85                          90                          95  
 Ile Phe Trp His Thr Leu Cys Ala Val Leu Glu Ile Leu Gly Leu Gly  
                           100                          105                          110  
 Ile Val Ala Leu Ile Leu Lys Ile Leu Ala Thr Phe Ile Met Ala Met  
       115                          120                          125  
 Pro Gly Leu Lys Arg Val Ala Thr Phe Leu Phe Tyr Ser  
       130                          135                          140

<210> 229

<211> 153

<212> PRT

<213> Chlamydia pneumoniae

<400> 229

Lys Glu Arg Phe Asn Ile Phe Val Ser Cys Lys Leu Leu Lys Glu Ile  
   1                          5                          10                          15  
 Met Met Ile Asn Phe Ile Arg Ser Tyr Ala Leu Tyr Phe Ala Trp Ala  
                           20                          25                          30  
 Ile Ser Cys Ala Gly Thr Leu Ile Ser Ile Phe Tyr Ser Tyr Ile Leu  
       35                          40                          45  
 Asn Val Glu Pro Cys Ile Leu Cys Tyr Tyr Gln Arg Ile Cys Leu Phe  
       50                          55                          60  
 Pro Leu Thr Val Ile Leu Gly Ile Ser Ala Tyr Arg Glu Asp Ser Ser  
 65                          70                          75                          80  
 Ile Lys Leu Tyr Ile Leu Pro Gln Ala Val Leu Gly Leu Gly Ile Ser  
                           85                          90                          95  
 Ile Tyr Gln Val Phe Leu Gln Glu Ile Pro Gly Met Gln Leu Asp Ile  
                           100                          105                          110  
 Cys Gly Arg Val Ser Cys Ser Thr Lys Ile Phe Leu Phe Ser Tyr Val  
       115                          120                          125  
 Thr Ile Pro Met Ala Ser Val Val Ala Phe Gly Ala Ile Val Cys Leu  
       130                          135                          140  
 Leu Val Leu Thr Lys Lys Tyr Arg Gly  
 145                          150

<210> 230

<211> 277

<212> PRT

<213> Chlamydia pneumoniae

<400> 230

Val Lys Asp Arg Ala Asp Phe Leu Asn Leu Lys Glu Lys Phe Ser Cys  
   1                          5                          10                          15  
 Ser Ile Leu Lys Lys Glu Asn Ala Phe Glu Phe Tyr Val Phe Cys Ser  
       20                          25                          30  
 Ile Lys Gln Leu Thr Asn Ser Ser Leu Arg Gly Pro Leu Asn Lys Lys  
       35                          40                          45  
 Ile Leu Val Leu Cys Thr Ala Met Phe Phe Ile Val Cys Phe Gly Phe  
       50                          55                          60  
 Leu Ile His Lys Lys His Thr Ile Leu Pro Pro Lys Ala His Ile Pro  
 65                          70                          75                          80  
 Thr Asn Ala Lys His Phe Pro Thr Ile Gly Asn Pro Tyr Ala Pro Ile  
                           85                          90                          95

Asn Ile Thr Val Phe Glu Glu Pro Ser Cys Ser Ala Cys Ala Glu Phe  
 100 105 110  
 Thr Thr Glu Val Phe Pro Leu Leu Lys Lys His Tyr Ile Asp Thr Gly  
 115 120 125  
 Glu Ile Ser Phe Thr Leu Ile Pro Val Cys Phe Ile Arg Gly Ser Lys  
 130 135 140  
 Pro Ala Ala Gln Ala Leu Leu Cys Ile Tyr His His Asp Pro Arg Gln  
 145 150 155 160  
 Ala Asp Ile Asp Ala Tyr Met Glu Tyr Phe His Arg Ile Leu Thr Tyr  
 165 170 175  
 Pro Lys Glu Glu Gly Ser His Trp Ala Thr Pro Glu Val Leu Thr Lys  
 180 185 190  
 Leu Ala Glu Gly Leu Lys Ile Asn Ser Gly Arg Ser Val Asn Pro Lys  
 195 200 205  
 Gly Leu Glu Gln Cys Ile Ala Ser Gly Gln Tyr Asn Glu Gln Ile Lys  
 210 215 220  
 Lys Asn Asn Leu Tyr Gly Ser Gln Val Leu Gly Gly Gln Leu Ala Thr  
 225 230 235 240  
 Pro Thr Ala Val Val Gly Asp Tyr Leu Ile Glu Asp Pro Thr Phe His  
 245 250 255  
 Glu Ile Glu Arg Ala Ile Gln His Ile Arg Gln Leu Gln Ala Val Glu  
 260 265 270  
 Gly Asp His Asp Asp  
 275

<210> 231  
 <211> 466  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 231  
 Asn Ser Lys Ala Phe Ser Phe Leu Arg Ile Glu Gln Glu Asn Phe Ser  
 1 5 10 15  
 Phe Lys Phe Lys Lys Ser Ala Leu Ser Phe Thr Tyr Asn Thr Ala Asn  
 20 25 30  
 Leu Thr Lys Ser Thr Phe Thr Phe Ile Leu Leu Leu Leu Arg Lys  
 35 40 45  
 Lys Asp Gln Gly Leu Arg Phe Met Asp Lys Glu Thr Leu Glu Asn Ile  
 50 55 60  
 Tyr Arg His Phe Arg Tyr Arg Phe Leu Lys Leu Asn Ile Leu Pro Ala  
 65 70 75 80  
 Phe Leu Gly Leu Leu Leu Cys Ser Pro Asn Thr Leu Asn Tyr Thr  
 85 90 95  
 Gln Val Asp Val Ile Phe Ser Asp Arg Leu Cys Ser Cys Leu Leu Ile  
 100 105 110  
 Phe Leu Ala Ile Ala Ser Leu Thr Lys Arg Ser Leu Leu Trp Leu Gly  
 115 120 125  
 Ala Pro Leu Gly Ile Trp Val Thr Leu Phe Ala Cys Val Ala Gly Arg  
 130 135 140  
 Ser Pro Thr Ile Phe Ala Asn Asp Thr Leu Ile Gly Phe Ala Ile Leu  
 145 150 155 160  
 Ala Val Val Cys Ile Ser Pro Thr Arg Pro Glu Ala Leu Glu Val Gly  
 165 170 175  
 Pro Thr Leu Pro Glu Gly Phe Ser Tyr Asn Pro Ser Ala Gly Gly Arg  
 180 185 190  
 Arg Ala Ala Val Leu Phe Leu Ser Leu Leu Gly Trp Leu Glu Ala Arg  
 195 200 205  
 Tyr Leu Thr Ala Ser Ser Leu Gly Ile Thr Ser Ser Gln Ser Ser Asn  
 210 215 220  
 Phe Leu Leu Leu Tyr Ser Ser Ile Met Thr Val Tyr Ser Leu Leu Val  
 225 230 235 240



Leu Glu Arg Ala Lys Glu Asn Ile Tyr Met Asn Lys Asn Gln Arg Glu  
195 200 205  
Lys Arg Asp Glu Arg Glu Ala Lys Lys Glu Ala Lys Asn Ala Ser Lys  
210 215 220  
Thr Asn Pro Leu Trp Glu Gly Leu Gly Thr  
225 230

<210> 233  
<211> 248  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 233  
Pro Gln Ala Phe Val Ser Ile Gln Asp Arg Gly Phe Ser Met Leu Gln  
1 5 10 15  
Ala His Arg Leu Cys Tyr Ser Cys Asp Asn Gln Val Ile Leu Lys Asp  
20 25 30  
Ala Ser Phe Gln Ala Ser Pro Gly Thr Ile Thr Ile Ile Leu Gly Ser  
35 40 45  
Ser Gly Val Gly Lys Thr Thr Leu Phe Arg Leu Leu Ala Gly Phe Leu  
50 55 60  
Pro Leu Gln Glu Gly Glu Leu Leu Trp Asn Gly Ser Pro Leu Asn Arg  
65 70 75 80  
Lys Asp Val Ala Tyr Met Gln Gln Lys Glu Ala Leu Leu Pro Trp Arg  
85 90 95  
Thr Ala Leu Lys Asn Met Thr Leu Ser Thr Glu Leu Gly Ile Asn Thr  
100 105 110  
Ser His Asn Ala Leu Ser Asn Glu Arg Leu Glu Glu Ile Ile His Asn  
115 120 125  
Phe Asp Leu Gly Gln Leu Leu Asp Arg Tyr Pro Asp Glu Leu Ser Gly  
130 135 140  
Gly Gln Arg Gln Arg Ile Ala Leu Ala Ala Gln Cys Leu Ser Leu Lys  
145 150 155 160  
Pro Ile Leu Leu Leu Asp Glu Pro Phe Ser Ser Leu Asp Val Leu Leu  
165 170 175  
Lys Glu Gln Leu Tyr Gln Asp Ile Val Ala Leu Ala Lys Lys Glu Asn  
180 185 190  
Lys Thr Val Leu Leu Val Thr His Asp Phe His Asp Val Ser Cys Leu  
195 200 205  
Gly Asp Val Leu Tyr Val Ile Lys Asn Lys Thr Leu Thr Pro Val Pro  
210 215 220  
Leu Asp Pro Ser Met Arg Pro Leu Asn Asn Gly Leu Cys Phe Ile Lys  
225 230 235 240  
Asp Leu Lys Lys His Leu Tyr Thr  
245

<210> 234  
<211> 301  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 234  
Lys Lys Phe Leu Met Arg Arg Phe Leu Phe Leu Ile Leu Ser Ser Leu  
1 5 10 15  
Pro Leu Val Ala Phe Ser Ala Asp Asn Phe Thr Ile Leu Glu Glu Lys  
20 25 30  
Gln Ser Pro Leu Ser Arg Val Ser Ile Ile Phe Ala Leu Pro Gly Val  
35 40 45  
Thr Pro Val Ser Phe Asp Gly Asn Cys Pro Ile Pro Trp Phe Ser His  
50 55 60

Ser Lys Lys Thr Leu Glu Gly Gln Arg Ile Tyr Tyr Ser Gly Asp Ser  
 65 70 75 80  
 Phe Gly Lys Tyr Phe Val Val Ser Ala Leu Trp Pro Asn Lys Val Ser  
 85 90 95  
 Ser Ala Val Val Ala Cys Asn Met Ile Leu Lys His Arg Val Asp Leu  
 100 105 110  
 Ile Leu Ile Ile Gly Ser Cys Tyr Ser Arg Ser Gln Asp Ser Arg Phe  
 115 120 125  
 Gly Ser Val Leu Val Ser Lys Gly Tyr Ile Asn Tyr Asp Ala Asp Val  
 130 135 140  
 Arg Pro Phe Phe Glu Arg Phe Glu Ile Pro Asp Ile Lys Lys Ser Val  
 145 150 155 160  
 Phe Ala Thr Ser Glu Val His Arg Glu Ala Ile Leu Arg Gly Gly Glu  
 165 170 175  
 Glu Phe Ile Ser Thr His Lys Gln Glu Ile Glu Glu Leu Leu Lys Thr  
 180 185 190  
 His Gly Tyr Leu Lys Ser Thr Thr Lys Thr Glu His Thr Leu Met Glu  
 195 200 205  
 Gly Leu Val Ala Thr Gly Glu Ser Phe Ala Met Ser Arg Asn Tyr Phe  
 210 215 220  
 Leu Ser Leu Gln Lys Leu Tyr Pro Glu Ile His Gly Phe Asp Ser Val  
 225 230 235 240  
 Ser Gly Ala Val Ser Gln Val Cys Tyr Glu Tyr Ser Ile Pro Cys Leu  
 245 250 255  
 Gly Val Asn Ile Leu Leu Pro His Pro Leu Glu Ser Arg Ser Asn Glu  
 260 265 270  
 Asp Trp Lys His Leu Gln Ser Glu Ala Ser Lys Ile Tyr Met Asp Thr  
 275 280 285  
 Leu Leu Lys Ser Val Leu Lys Glu Leu Cys Ser Ser His  
 290 295 300

<210> 235  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 235  
 Glu Lys Ala Arg Thr Met Phe Leu Gly Lys Val Leu Leu Phe Leu Leu  
 1 5 10 15  
 Arg Ile Ser Arg Arg Ser Tyr Val Gln Glu Ile Gly Ile Phe Phe His  
 20 25 30  
 Leu Glu Thr Pro Asp Leu Lys Ile Val Leu Cys Ala Phe Val Ser Thr  
 35 40 45  
 Phe Ile Val Val Glu Met Asp Val Ser Leu Lys Asn Lys Gly Gln Ser  
 50 55 60

<210> 236  
 <211> 233  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 236  
 Phe Ile Met Leu Gln Ser Cys Lys Lys Ala Leu Leu Ser Ile Val Val  
 1 5 10 15  
 Ser Ile Leu Ala Phe His Pro Ile Pro Gly Met Gly Val Glu Ala Lys  
 20 25 30  
 Ser Gly Phe Leu Gly Lys Val Lys Gly Trp Phe Ser Lys Lys Glu Ile  
 35 40 45  
 Gln Glu Glu Ala Arg Ile Leu Pro Val Lys Asp Ser Leu Ser Trp Lys  
 50 55 60

Arg Tyr Asp Tyr Thr Ser Ser Ser Gly Phe Ser Val Glu Phe Pro Gly  
 65 70 75 80  
 Glu Pro Asp His Ser Gly Gln Ile Val Glu Val Pro Gln Ser Glu Ile  
 85 90 95  
 Thr Ile Arg Tyr Asp Thr Tyr Val Thr Glu Thr His Pro Asp Asn Thr  
 100 105 110  
 Val Tyr Val Val Ser Val Trp Glu Tyr Pro Glu Lys Val Asp Ile Ser  
 115 120 125  
 Arg Pro Glu Leu Asn Leu Gln Glu Gly Phe Ser Gly Met Met Gln Ala  
 130 135 140  
 Leu Pro Glu Ser Gln Val Leu Phe Met Gln Ala Arg Gln Ile Gln Gly  
 145 150 155 160  
 His Lys Ala Leu Glu Phe Trp Ile Val Cys Glu Asp Val Tyr Phe Arg  
 165 170 175  
 Gly Met Leu Ile Ser Val Asn His Thr Leu Tyr Gln Val Phe Met Val  
 180 185 190  
 Tyr Lys Asn Lys Asn Pro Gln Ala Leu Asp Lys Glu Tyr Glu Ala Phe  
 195 200 205  
 Ser Gln Ser Phe Lys Ile Thr Lys Ile Arg Glu Pro Arg Thr Ile Pro  
 210 215 220  
 Ser Ser Val Lys Lys Lys Val Ser Leu  
 225 230

<210> 237

<211> 261

<212> PRT

<213> Chlamydia pneumoniae

<400> 237

Val Phe Val Arg Tyr Leu Leu Met Lys Pro Glu Glu Ser Glu Cys Leu  
 1 5 10 15  
 Cys Ile Gly Val Leu Pro Ala Arg Trp Asn Ser Ser Arg Tyr Pro Gly  
 20 25 30  
 Lys Pro Leu Ala Lys Ile His Gly Lys Ser Leu Ile Gln Arg Thr Tyr  
 35 40 45  
 Glu Asn Ala Ser Gln Ser Ser Leu Leu Asp Lys Ile Val Val Ala Thr  
 50 55 60  
 Asp Asp Gln His Ile Ile Asp His Val Thr Asp Phe Gly Gly Tyr Ala  
 65 70 75 80  
 Val Met Thr Ser Pro Thr Cys Ser Asn Gly Thr Glu Arg Thr Gly Glu  
 85 90 95  
 Val Ala Arg Lys Tyr Phe Pro Lys Ala Glu Ile Ile Val Asn Ile Gln  
 100 105 110  
 Gly Asp Glu Pro Cys Leu Asn Ser Glu Val Val Asp Ala Leu Val Gln  
 115 120 125  
 Lys Leu Arg Ser Ser Pro Glu Ala Glu Leu Val Thr Pro Val Ala Leu  
 130 135 140  
 Thr Thr Asp Arg Glu Glu Ile Leu Thr Glu Lys Lys Val Lys Cys Val  
 145 150 155 160  
 Phe Asp Ser Glu Gly Arg Ala Leu Tyr Phe Ser Arg Ser Pro Ile Pro  
 165 170 175  
 Phe Ile Leu Lys Lys Ala Thr Pro Val Tyr Leu His Ile Gly Val Tyr  
 180 185 190  
 Ala Phe Lys Arg Glu Ala Leu Phe Arg Tyr Leu Gln His Ser Ser Thr  
 195 200 205  
 Pro Leu Ser Asp Ala Glu Asp Leu Glu Gln Leu Arg Phe Leu Glu His  
 210 215 220  
 Gly Gly Lys Ile His Val Cys Ile Val Asp Ala Lys Ser Pro Ser Val  
 225 230 235 240  
 Asp Tyr Pro Glu Asp Ile Ala Lys Val Glu Gln Tyr Ile Thr Cys Leu  
 245 250 255



Ser Asn Ala Tyr Phe  
260

<210> 238

<211> 543

<212> PRT

<213> Chlamydia pneumoniae

<400> 238

Ser	Arg	Thr	Ile	Tyr	His	Met	Pro	Phe	Lys	Cys	Ile	Phe	Leu	Thr	Gly
1			5					10						15	
Gly	Val	Val	Ser	Ser	Leu	Gly	Lys	Gly	Leu	Thr	Ala	Ala	Ser	Leu	Ala
			20					25					30		
Leu	Ile	Leu	Glu	Arg	Gln	Arg	Leu	Asn	Val	Ala	Met	Leu	Lys	Leu	Asp
		35					40					45			
Pro	Tyr	Leu	Asn	Val	Asp	Pro	Gly	Thr	Met	Asn	Pro	Phe	Glu	His	Gly
	50				55					60					
Glu	Ile	Tyr	Val	Thr	Asp	Asp	Gly	Val	Glu	Thr	Asp	Leu	Asp	Leu	Gly
65				70					75					80	
His	Tyr	His	Arg	Phe	Ser	Ser	Ala	Ala	Leu	Ser	Arg	His	Ser	Ser	Ala
			85						90					95	
Thr	Ser	Gly	Gln	Ile	Tyr	Ala	Arg	Val	Ile	Lys	Arg	Glu	Arg	Glu	Gly
			100					105					110		
Asp	Tyr	Leu	Gly	Ser	Thr	Val	Gln	Val	Ile	Pro	His	Ile	Thr	Asn	Glu
		115					120					125			
Ile	Ile	Gln	Val	Ile	Leu	Asp	Ala	Ala	Lys	Glu	His	Ser	Pro	Asp	Val
	130					135				140					
Leu	Ile	Val	Glu	Ile	Gly	Gly	Thr	Ile	Gly	Asp	Ile	Glu	Ser	Leu	Pro
145				150					155					160	
Phe	Leu	Glu	Ala	Ile	Arg	Gln	Phe	Arg	Tyr	Asp	His	Ser	Glu	Asp	Cys
			165					170						175	
Leu	Asn	Ile	His	Met	Thr	Tyr	Val	Pro	Tyr	Leu	Gln	Ala	Ala	Asp	Glu
		180						185					190		
Val	Lys	Ser	Lys	Pro	Thr	Gln	His	Ser	Val	Gln	Thr	Leu	Arg	Gly	Ile
	195					200						205			
Gly	Ile	Ile	Pro	Asp	Ala	Ile	Leu	Cys	Arg	Ser	Glu	Lys	Pro	Leu	Thr
	210					215					220				
Gln	Glu	Val	Lys	Ser	Lys	Ile	Ser	Leu	Phe	Cys	Asn	Val	Pro	Asn	Arg
225					230					235				240	
Ala	Val	Phe	Asn	Val	Ile	Asp	Val	Lys	His	Thr	Ile	Tyr	Glu	Met	Pro
			245						250					255	
Leu	Met	Leu	Ala	Gln	Glu	Lys	Ile	Ala	Asn	Phe	Ile	Gly	Glu	Lys	Leu
		260						265					270		
Lys	Leu	Ala	Thr	Val	Pro	Glu	Asn	Leu	Asp	Asp	Trp	Lys	Val	Leu	Val
	275						280					285			
Asn	Gln	Leu	Ser	Gln	Asp	Leu	Pro	Lys	Val	Lys	Ile	Gly	Val	Val	Gly
	290					295					300				
Lys	Tyr	Val	Gln	His	Arg	Asp	Ala	Tyr	Lys	Ser	Ile	Phe	Glu	Ala	Leu
305					310					315					320
Thr	His	Ala	Ala	Leu	Arg	Leu	Gly	His	Ala	Ala	Glu	Ile	Ile	Pro	Ile
			325						330					335	
Asp	Ala	Glu	Asp	Glu	Asn	Leu	Thr	Met	Glu	Leu	Ser	Gln	Cys	Asp	Ala
		340						345					350		
Cys	Leu	Val	Pro	Gly	Gly	Phe	Gly	Val	Arg	Gly	Trp	Glu	Gly	Lys	Ile
	355						360					365			
Ala	Ala	Ala	Lys	Phe	Cys	Arg	Glu	Gln	Gly	Ile	Pro	Tyr	Phe	Gly	Ile
	370					375					380				
Cys	Leu	Gly	Met	Gln	Val	Leu	Val	Val	Glu	Tyr	Ala	Arg	Asn	Val	Leu
385				390						395				400	
Asn	Leu	Asp	Gln	Ala	Asn	Ser	Leu	Glu	Met	Asp	Pro	Asn	Thr	Pro	His
			405						410					415	

Pro Ile Val Tyr Val Met Glu Gly Gln Asp Pro Leu Val Ala Thr Gly  
420 425 430  
Gly Thr Met Arg Leu Gly Ala Tyr Pro Cys Leu Leu Lys Pro Gly Ser  
435 440 445  
Lys Ala His Lys Ala Tyr Asn Glu Ser Ser Leu Ile Gln Glu Arg His  
450 455 460  
Arg His Arg Tyr Glu Val Asn Pro Asp Tyr Ile Gln Ser Leu Glu Asp  
465 470 475 480  
His Gly Leu Arg Ile Val Gly Thr Cys Pro Pro Gln Gly Leu Cys Glu  
485 490 495  
Ile Ile Glu Val Ser Asp His Pro Trp Met Ile Gly Val Gln Phe His  
500 505 510  
Pro Glu Phe Val Ser Lys Leu Ile Ser Pro His Pro Leu Phe Ile Ala  
515 520 525  
Phe Ile Glu Ala Ala Leu Val Tyr Ser Lys Asp Ala Ser His Val  
530 535 540

<210> 239

<211> 158

<212> PRT

<213> Chlamydia pneumoniae

<400> 239

Ser Ile Leu Arg Met Gln Ala Met Ser Lys Pro Ser Ser Cys Lys Ala  
1 5 10 15  
Tyr Leu Gly Ile Asp Tyr Gly Lys Lys Arg Ile Gly Leu Ala Tyr Ala  
20 25 30  
Ala Glu Pro Leu Leu Leu Thr Leu Pro Ile Gly Asn Ile Glu Ala Gly  
35 40 45  
Lys Asn Leu Lys Leu Ser Ala Glu Ala Leu His Lys Ile Ile Leu Ser  
50 55 60  
Arg Asn Ile Thr Cys Val Val Leu Gly Asn Pro Leu Pro Met Gln Lys  
65 70 75 80  
Gly Leu Tyr Ser Ser Leu Gln Glu Glu Val Ser Leu Leu Ala Glu Glu  
85 90 95  
Leu Lys Lys Leu Ser Thr Val Glu Ile Ile Leu Trp Asp Glu Arg Leu  
100 105 110  
Ser Ser Val Gln Ala Glu Arg Met Leu Lys Gln Asp Cys Gly Leu Ser  
115 120 125  
Arg Lys Asp Arg Lys Gly Lys Thr Asp Ser Leu Ala Ala Thr Leu Ile  
130 135 140  
Leu Thr Ser Phe Leu Asp Ser Leu Pro Lys Lys Leu Thr Leu  
145 150 155

<210> 240

<211> 543

<212> PRT

<213> Chlamydia pneumoniae

<400> 240

Pro Cys Asn His Gln Lys Leu Arg Asp Phe Asn Phe Arg Asn Phe Leu  
1 5 10 15  
Leu Phe Val Ile Phe Ala Ser Ala Gly Thr Lys Lys Glu Ile Lys Met  
20 25 30  
Thr Asn Val Val Gln Glu Thr Ile Gly Gly Leu Asn Ser Pro Arg Thr  
35 40 45  
Cys Pro Pro Cys Ile Leu Val Ile Phe Gly Ala Thr Gly Asp Leu Thr  
50 55 60  
Ala Arg Lys Leu Leu Pro Ala Leu Tyr His Leu Thr Lys Glu Gly Arg  
65 70 75 80

Leu	Ser	Asp	Gln	Phe	Val	Cys	Val	Gly	Phe	Ala	Arg	Arg	Glu	Lys	Ser	
			85						90					95		
Asn	Glu	Leu	Phe	Arg	Gln	Glu	Met	Lys	Gln	Ala	Val	Ile	Gln	Phe	Ser	
			100					105					110			
Pro	Ser	Glu	Leu	Asp	Ile	Lys	Val	Trp	Glu	Asp	Phe	Gln	Gln	Arg	Leu	
		115					120					125				
Phe	Tyr	His	Arg	Ser	Glu	Phe	Asp	Asn	Asn	Met	Gly	Tyr	Thr	Ser	Leu	
	130					135					140					
Lys	Asp	Ser	Leu	Glu	Asp	Leu	Asp	Lys	Thr	Tyr	Gly	Thr	Arg	Gly	Asn	
145				150						155					160	
Arg	Leu	Phe	Tyr	Leu	Ser	Thr	Pro	Pro	Gln	Tyr	Phe	Ser	Arg	Ile	Ile	
			165						170					175		
Glu	Asn	Leu	Asn	Lys	His	Lys	Leu	Phe	Tyr	Lys	Asn	Gln	Asp	Gln	Gly	
			180					185					190			
Lys	Pro	Trp	Ser	Arg	Val	Ile	Ile	Glu	Lys	Pro	Phe	Gly	Arg	Asp	Leu	
	195					200						205				
Asp	Ser	Ala	Lys	Gln	Leu	Gln	Gln	Cys	Ile	Asn	Glu	Asn	Leu	Asn	Glu	
	210					215					220					
Asn	Ser	Val	Tyr	His	Ile	Asp	His	Tyr	Leu	Gly	Lys	Glu	Thr	Val	Gln	
225				230						235					240	
Asn	Ile	Leu	Thr	Thr	Arg	Phe	Ala	Asn	Thr	Ile	Phe	Glu	Ser	Cys	Trp	
			245						250					255		
Asn	Ser	Gln	Tyr	Ile	Asp	His	Val	Gln	Ile	Ser	Leu	Ser	Glu	Thr	Ile	
		260						265					270			
Gly	Ile	Gly	Ser	Arg	Gly	Asn	Phe	Phe	Glu	Lys	Ser	Gly	Met	Leu	Arg	
	275					280						285				
Asp	Met	Val	Gln	Asn	His	Met	Met	Gln	Leu	Leu	Cys	Leu	Leu	Thr	Met	
	290					295					300					
Glu	Pro	Pro	Thr	Thr	Phe	Asp	Ala	Asp	Glu	Ile	Arg	Lys	Glu	Lys	Ile	
305					310					315					320	
Lys	Ile	Leu	Gln	Arg	Ile	Ser	Pro	Phe	Ser	Glu	Gly	Ser	Ser	Ile	Val	
			325					330						335		
Arg	Gly	Gln	Tyr	Gly	Pro	Gly	Thr	Val	Gln	Gly	Val	Ser	Val	Leu	Gly	
		340					345						350			
Tyr	Arg	Glu	Glu	Glu	Asn	Val	Asp	Lys	Asp	Ser	Arg	Val	Glu	Thr	Tyr	
	355					360						365				
Val	Ala	Leu	Lys	Thr	Val	Ile	Asn	Asn	Pro	Arg	Trp	Leu	Gly	Val	Pro	
	370					375					380					
Phe	Tyr	Leu	Arg	Ala	Gly	Lys	Arg	Leu	Ala	Lys	Lys	Ser	Thr	Asp	Ile	
385				390						395					400	
Ser	Ile	Ile	Phe	Lys	Lys	Ser	Pro	Tyr	Asn	Leu	Phe	Ala	Ala	Glu	Glu	
			405						410					415		
Cys	Ser	Arg	Cys	Pro	Ile	Glu	Asn	Asp	Leu	Leu	Ile	Ile	Arg	Ile	Gln	
		420						425					430			
Pro	Asp	Glu	Gly	Val	Ala	Leu	Lys	Phe	Asn	Cys	Lys	Val	Pro	Gly	Thr	
	435						440					445				
Asn	Asn	Ile	Val	Arg	Pro	Val	Lys	Met	Asp	Phe	Arg	Tyr	Asp	Ser	Tyr	
	450					455					460					
Phe	Gln	Thr	Thr	Thr	Pro	Glu	Ala	Tyr	Glu	Arg	Leu	Leu	Cys	Asp	Cys	
465					470					475					480	
Ile	Ile	Gly	Asp	Arg	Thr	Leu	Phe	Thr	Gly	Gly	Asp	Glu	Val	Met	Ala	
			485						490					495		
Ser	Trp	Lys	Leu	Phe	Thr	Pro	Val	Leu	Glu	Glu	Trp	Asp	Gln	Asp	Ser	
		500						505					510			
Ser	Pro	Ser	Phe	Pro	Asn	Tyr	Pro	Ala	Gly	Ser	Ser	Gly	Pro	Lys	Glu	
	515					520						525				
Ala	Asp	Ala	Leu	Ile	Glu	Arg	Asp	Gly	Arg	Ser	Trp	Arg	Pro	Leu		
	530					535					540					

<210> 241  
 <211> 270  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 241  
 Lys Ser Ile Ser Met Thr Asn Ile Gly Ile Glu Thr Met Ala Thr Leu  
 1 5 10 15  
 Ile Asn Phe Asn Asp Thr Asn Lys Leu Leu Leu Thr Lys Gln Pro Ser  
 20 25 30  
 Leu Phe Ile Asp Leu Ala Ser Lys Asp Trp Ile Ala Ser Ala Asn Gln  
 35 40 45  
 Ala Ile Lys Gln Arg Gly Ala Phe Tyr Val Ala Leu Ser Gly Gly Lys  
 50 55 60  
 Thr Pro Leu Glu Ile Tyr Lys Asp Ile Val Ile Asn Lys Asp Lys Leu  
 65 70 75 80  
 Ile Asp Pro Ser Lys Ile Phe Leu Phe Trp Gly Asp Glu Arg Leu Ala  
 85 90 95  
 Pro Ile Thr Ser Ser Glu Ser Asn Tyr Gly Gln Ala Met Ser Ile Leu  
 100 105 110  
 Arg Asp Leu Asn Ile Pro Asp Glu Gln Ile Phe Arg Met Glu Thr Glu  
 115 120 125  
 Asn Pro Asp Gly Ala Lys Lys Tyr Gln Glu Leu Ile Glu Asn Lys Ile  
 130 135 140  
 Pro Asp Ala Ser Phe Asp Met Ile Met Leu Gly Leu Gly Glu Asp Gly  
 145 150 155 160  
 His Thr Leu Ser Leu Phe Ser Asn Thr Ser Ala Leu Glu Glu Glu Asn  
 165 170 175  
 Asp Leu Val Val Phe Asn Ser Val Pro His Leu Glu Thr Glu Arg Met  
 180 185 190  
 Thr Leu Thr Phe Pro Cys Val His Lys Gly Lys His Val Val Val Tyr  
 195 200 205  
 Val Gln Gly Glu Asn Lys Lys Pro Ile Leu Lys Ser Val Phe Phe Ser  
 210 215 220  
 Glu Gly Arg Glu Glu Lys Leu Tyr Pro Ile Glu Arg Val Gly Arg Asp  
 225 230 235 240  
 Arg Ser Pro Leu Phe Trp Ile Ile Ser Pro Glu Ser Tyr Asp Ile Ala  
 245 250 255  
 Asp Phe Asp Asn Ile Ser Ser Ile Tyr Lys Met Asp Ile Leu  
 260 265 270

<210> 242  
 <211> 388  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 242  
 Leu Val Tyr Phe Met Val Phe Ser Pro Ser Ser Glu Ser Val Val Lys  
 1 5 10 15  
 Ala Asn Ser Val Val Arg Ser Asn Phe Cys Tyr Phe Leu Glu Asn Lys  
 20 25 30  
 Phe Val Ser Pro Ser Glu Ser Thr Glu Val Met Phe Ser Glu Ile Met  
 35 40 45  
 Lys Gly Arg Val Pro Asp Ile Glu Ser Leu Phe Asp Arg Pro Thr Asp  
 50 55 60  
 Met Met Met Thr Gly Phe Lys Ala Ala Gln Asn Leu Gly Asn Leu Phe  
 65 70 75 80  
 Asn Ser Phe Gly Ile Leu Ile Met Cys Phe Ser Gln Cys Lys Ser Cys  
 85 90 95  
 Gln Thr Pro Glu Lys Glu Thr Ser Ala Ile Val Leu Gly Ala Thr Leu  
 100 105 110

Leu Phe Phe Val Val Ala Leu Ile Leu Gly Pro Thr Leu Gly Ala Leu  
 115 120 125  
 Val Tyr Cys Ala Tyr Lys Val Tyr Thr Leu Gly Lys Met Ile Tyr Ser  
 130 135 140  
 Leu Asn Lys Ala Lys Ala Lys Val Leu Arg His Pro Ala Gln Asn Val  
 145 150 155 160  
 Phe His Arg Ala Ala Gly Val Ala Thr Ile Arg Ser Ser Glu Glu Ala  
 165 170 175  
 Val Lys Ala Cys Lys Leu Tyr Lys Ser Ala Met Ile Gly Ser Leu Val  
 180 185 190  
 Val Ser Leu Ile Ala Ser Leu Ala Leu Ile Ala Leu Thr Ala Gly Ile  
 195 200 205  
 Val Leu Val Leu Phe Phe Val Ala Pro Gly Ala Ala Pro Val Ile Thr  
 210 215 220  
 Ala Ala Met Met Gly Cys Cys Ala Ala Gly Gly Gly Ala Leu Leu Ile  
 225 230 235 240  
 Ser Leu Leu Gly Leu Trp Ile Ala Ile Val Arg Lys Ala Lys His Gln  
 245 250 255  
 Glu Ala Cys Val Gly His Leu Thr Asn Val Val Leu His Thr Ala Val  
 260 265 270  
 Ser Glu Ala Leu Leu His Asp Pro Ser His Phe Gln Thr Asn Ala Leu  
 275 280 285  
 Ala Arg Asp Leu Phe Leu Thr Asp Cys Leu Ser His Tyr Gly His Leu  
 290 295 300  
 Phe Ser Asn Glu Glu Val Ala Gln Leu Val Gln Gly Gly Ala Pro Gly  
 305 310 315 320  
 Gly Gly Ser Arg Pro Ser Gln His Tyr Gly Gly Ser Ser Asp Tyr Gln  
 325 330 335  
 Asn Arg Arg Gly Gly Asn Gly Asn Phe Gly Gly Ser His Phe Gly Gly  
 340 345 350  
 Gly Gly Gly Phe Ala Gly Ser His Phe Gly Ala Gly Tyr Pro Thr Ala  
 355 360 365  
 Pro Thr Met Pro Ser Ala Pro Pro Pro Phe Pro Pro Pro Ala Tyr Asp  
 370 375 380  
 Thr Ile Tyr Gly  
 385

<210> 243  
 <211> 390  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 243  
 Ile Phe Leu Val Lys Phe Met Ser Ala Met Ile Ser Leu Ser Ser Ser  
 1 5 10 15  
 His Glu Ala Ser Ile Ala Ser Asn Thr Gln Val Arg Asp Val Leu Val  
 20 25 30  
 Ser Leu Ala Met Asp Glu Phe Val Glu His Asn Thr Glu Ile Leu Pro  
 35 40 45  
 Ile Lys Val Phe Leu Ala Arg Gly Thr Leu Ser Ser Thr Ala Ile Ile  
 50 55 60  
 Asp Asp Leu Lys Asp Val Val Glu Thr Glu Gly Glu His His Phe Gln  
 65 70 75 80  
 Val Tyr Ser Asn Ile Ser Leu Lys Met Ile Tyr Gln Arg Phe Phe Glu  
 85 90 95  
 Lys Ile Phe Gly Ile Gly Cys Cys Pro Leu Leu Leu Val Thr Asp Ser  
 100 105 110  
 His His Thr Asp Pro Cys Gly Ala Leu Ile Thr Gly Ile Phe Ala Ala  
 115 120 125  
 Val Leu Phe Thr Val Leu Ala Ile Val Phe Gly Pro Thr Leu Gly Ile  
 130 135 140

Leu Cys Tyr Ser Ala Tyr Lys Ile Tyr Gln Leu Thr Lys Lys Ile Ser  
 145 150 155 160  
 Ser Leu Ser Arg Thr His Thr Glu Val Ile Asn Ser Val Gln Lys Ser  
 165 170 175  
 Asp Pro Phe Ile His Arg Ser Gly Ala Val Ala Ala Ala Ala Ser  
 180 185 190  
 Gln Ser Thr Ile Lys Ala Cys Lys Val Phe Arg Gln Ser Thr Leu Ile  
 195 200 205  
 Phe Phe Val Leu Gly Leu Ile Ile Thr Ile Ser Leu Ala Ala Leu Ile  
 210 215 220  
 Val Gly Leu Val Phe Ala Leu Phe Phe Leu Asp Pro Gly Ala Pro Ala  
 225 230 235 240  
 Val Met Thr Ala Ala Met Ile Gly Cys Cys Ala Ala Gly Gly Thr Gly  
 245 250 255  
 Ile Leu Leu Ser Val Ile Gly Phe Leu Leu Ala Ser Val Tyr Ser Val  
 260 265 270  
 Gln Lys Ser Gln Glu Gly Val His His Met His Thr Ala Leu Leu Arg  
 275 280 285  
 Cys Ile Val Ser Asn Thr Ile Ile Gln Met Pro Tyr Leu Pro Ile Thr  
 290 295 300  
 Pro Gly Thr Lys Lys Val Leu Thr Gln Ser Ile Arg Arg Tyr Gln Gln  
 305 310 315 320  
 Phe Phe Ser Asp Asp Glu Tyr Arg Asp Ile Glu Ser Glu Val Pro Leu  
 325 330 335  
 Asn Arg Gln Thr Thr Pro Pro Pro Ser Tyr Glu Thr Leu Phe His Glu  
 340 345 350  
 Glu Gly Ser Asp Gly Ser Ser Asn Val Ile Pro Arg Glu Ser Pro Pro  
 355 360 365  
 Ala Tyr Ser Thr Ile Asp Ser Ser Asn Ser Pro Phe Pro Ser Ser Ser  
 370 375 380  
 Pro Pro Pro Tyr Tyr Arg  
 385 390

<210> 244  
 <211> 163  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 244  
 Lys Ser Leu Lys Tyr Cys Ser Leu Tyr Gln Phe Ser Gln Lys Pro Thr  
 1 5 10 15  
 Val Ile Leu Met Ala Cys Ser Ile Phe Arg Met Ser Gln Gly Asp  
 20 25 30  
 Tyr Asp Asp Glu Pro Leu Ser Lys Lys Thr Ala Cys Leu Val Val Asp  
 35 40 45  
 Thr Met Leu Tyr Pro Val Ile Ala Val Val Cys Ala Val Val Ser Val  
 50 55 60  
 Val Leu Leu Ile Leu Lys Val Leu Phe Leu Leu Ser Phe Pro Phe  
 65 70 75 80  
 Lys Leu Cys Ser Ala Ser Ser Ala Leu Pro Gly Glu Arg Val Ser Leu  
 85 90 95  
 Gly Ser His Phe Lys Cys Leu Tyr Gly Gly Gly Leu Pro Tyr Leu Leu  
 100 105 110  
 Ala Cys Leu Leu Ile Val Pro Val Ile Gly Thr Ala Ile His Gly Phe  
 115 120 125  
 Ile Ile Ser His Arg Thr Ser Glu Asp Ala Arg Leu Ser Ser Ala Ile  
 130 135 140  
 Val Phe Met Gln Ala Pro Ile Leu Gln Leu Ala Gly Met Ser Gly Leu  
 145 150 155 160  
 Ile Lys Pro

<210> 245  
 <211> 159  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 245  
 Ile Asn Tyr Asn Tyr Leu Val Phe Leu Leu Lys Phe Val Lys Gly Arg  
 1 5 10 15  
 Ile Ile Met Ala Cys Ser Ile Gly Tyr His Leu Cys Asn Ala Asn Glu  
 20 25 30  
 Pro Asp Arg Phe Val Ala Ser Lys Val Ala Leu Val Ala Asp Ile Leu  
 35 40 45  
 Leu Tyr Pro Phe Met Ala Val Ile Cys Ala Val Val Phe Ala Val Leu  
 50 55 60  
 Met Val Val Lys Leu Leu Phe Leu Ala Ile Lys Phe Leu Val Asn Thr  
 65 70 75 80  
 Cys Ile Ala Ala Cys Lys Ser Arg Pro Leu Pro Ser Cys Lys Glu Asn  
 85 90 95  
 Phe Gln Cys Leu Phe Gly Pro Lys Asp Lys Pro Gly Pro Ser Asp Trp  
 100 105 110  
 Leu Gly Cys Leu Val Leu Ile Pro Ile Ile Gly Thr Leu Ile Tyr Ser  
 115 120 125  
 Thr Ile Ile Thr Val Gln Ser Asp Thr Asn Arg Leu Arg Tyr Phe Ile  
 130 135 140  
 Ile Ser Pro Ala Tyr Gln Val Gly Ser Thr Ala Ile Ile Asn Trp  
 145 150 155

<210> 246  
 <211> 217  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 246  
 Gly Ala Phe Glu Val Thr Lys Gly Ser Val Phe Ile Ile Met Gly Pro  
 1 5 10 15  
 Pro Gly Ser Gly Lys Gly Thr Gln Ser Gln Tyr Leu Ala Asn Arg Ile  
 20 25 30  
 Gly Leu Pro His Ile Ser Thr Gly Asp Leu Leu Arg Ala Ile Ile Arg  
 35 40 45  
 Glu Gly Thr Pro Asn Gly Leu Lys Ala Lys Ala Tyr Leu Asp Lys Gly  
 50 55 60  
 Ala Phe Val Pro Ser Asp Phe Val Trp Glu Ile Leu Lys Glu Lys Leu  
 65 70 75 80  
 Gln Ser Gln Ala Cys Ser Lys Gly Cys Ile Ile Asp Gly Phe Pro Arg  
 85 90 95  
 Thr Leu Asp Gln Ala His Leu Leu Asp Ser Phe Leu Met Asp Val His  
 100 105 110  
 Ser Asn Tyr Thr Val Ile Phe Leu Glu Ile Ser Glu Asp Glu Ile Leu  
 115 120 125  
 Lys Arg Val Cys Ser Arg Phe Leu Cys Pro Ser Cys Ser Arg Ile Tyr  
 130 135 140  
 Asn Thr Ser Gln Gly His Thr Glu Cys Pro Asp Cys His Val Pro Leu  
 145 150 155 160  
 Ile Arg Arg Ser Asp Asp Thr Pro Glu Ile Ile Lys Glu Arg Leu Thr  
 165 170 175  
 Lys Tyr Gln Glu Arg Thr Ala Pro Val Ile Ala Tyr Tyr Asp Ser Leu  
 180 185 190  
 Gly Lys Leu Cys Arg Val Ser Ser Glu Asn Lys Glu Asp Leu Val Phe  
 195 200 205  
 Glu Asp Ile Leu Lys Cys Ile Tyr Lys  
 210 215

<210> 247  
 <211> 291  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 247  
 Thr Cys Gln Lys Glu Ile Met Lys His Tyr Leu Ser Phe Ser Pro Ser  
 1 5 10 15  
 Ala Asp Phe Phe Ser Lys Gln Gly Ala Ile Glu Thr Gln Val Leu Phe  
 20 25 30  
 Gly Glu Arg Val Leu Val Lys Gly Ser Thr Cys Tyr Ala Tyr Ser Gln  
 35 40 45  
 Leu Phe His Asn Glu Leu Leu Trp Lys Pro Tyr Pro Gly His Ser Phe  
 50 55 60  
 Arg Ser Thr Leu Val Pro Cys Thr Pro Glu Phe His Ile His Pro Asn  
 65 70 75 80  
 Val Ser Val Val Ser Val Asp Ala Phe Leu Asp Pro Trp Gly Ile Pro  
 85 90 95  
 Leu Pro Phe Gly Thr Leu Leu His Val Asn Ser Gln Asn Thr Val Ile  
 100 105 110  
 Phe Pro Lys Asp Ile Leu Asn His Met Asn Thr Ile Trp Gly Ser Gly  
 115 120 125  
 Thr Pro Gln Cys Asp Pro Arg His Leu Arg Arg Leu Asn Tyr Asn Phe  
 130 135 140  
 Phe Ala Glu Leu Leu Ile Lys Asp Ala Asp Leu Leu Leu Asn Phe Pro  
 145 150 155 160  
 Tyr Val Trp Gly Gly Arg Ser Val His Glu Ser Leu Glu Lys Pro Gly  
 165 170 175  
 Val Asp Cys Ser Gly Phe Ile Asn Ile Leu Tyr Gln Ala Gln Gly Tyr  
 180 185 190  
 Asn Val Pro Arg Asn Ala Ala Asp Gln Tyr Ala Asp Cys His Trp Ile  
 195 200 205  
 Ser Ser Phe Glu Asn Leu Pro Ser Gly Gly Leu Ile Phe Leu Tyr Pro  
 210 215 220  
 Lys Glu Glu Lys Arg Ile Ser His Val Met Leu Lys Gln Asp Ser Ser  
 225 230 235 240  
 Thr Leu Ile His Ala Ser Gly Gly Gly Lys Lys Val Glu Tyr Phe Ile  
 245 250 255  
 Leu Glu Gln Asp Gly Lys Phe Leu Asp Ser Thr Tyr Leu Phe Phe Arg  
 260 265 270  
 Asn Asn Gln Arg Gly Arg Ala Phe Phe Gly Ile Pro Arg Lys Arg Lys  
 275 280 285  
 Ala Phe Leu  
 290

<210> 248  
 <211> 135  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 248  
 Val Val Ala Lys Ser Thr Ile Gln Glu Ser Val Ala Thr Gly Arg Arg  
 1 5 10 15  
 Lys Gln Ala Val Ser Ser Val Arg Leu Arg Pro Gly Ser Gly Lys Ile  
 20 25 30  
 Asp Val Asn Gly Lys Ser Phe Glu Asp Tyr Phe Pro Leu Glu Ile Gln  
 35 40 45  
 Arg Thr Thr Ile Leu Ser Pro Leu Lys Lys Ile Thr Glu Asp Gln Ser  
 50 55 60  
 Gln Tyr Asp Leu Ile Ile Arg Val Ser Gly Gly Gly Ile Gln Gly Gln  
 65 70 75 80



Val Ile Ala Thr Arg Leu Gly Leu Ala Arg Ala Leu Leu Lys Glu Asn  
85 90 95  
Glu Glu Asn Arg Gln Asp Leu Lys Ser Cys Gly Phe Leu Thr Arg Asp  
100 105 110  
Pro Arg Lys Lys Glu Arg Lys Lys Tyr Gly His Lys Lys Ala Arg Lys  
115 120 125  
Ser Phe Gln Phe Ser Lys Arg  
130 135

<210> 249

<211> 154

<212> PRT

<213> Chlamydia pneumoniae

<400> 249

Asp Ser Tyr Ile Ile Met Glu Lys Arg Lys Asp Thr Lys Thr Thr Ile  
1 5 10 15  
Val Lys Ser Ser Glu Thr Thr Lys Ser Trp Tyr Val Val Asp Ala Ala  
20 25 30  
Gly Lys Thr Leu Gly Arg Leu Ser Ser Glu Val Ala Lys Ile Leu Arg  
35 40 45  
Gly Lys His Lys Val Thr Tyr Thr Pro His Val Ala Met Gly Asp Gly  
50 55 60  
Val Ile Val Ile Asn Ala Glu Lys Val Arg Leu Thr Gly Ala Lys Lys  
65 70 75 80  
Gly Gln Lys Ile Tyr Arg Tyr Tyr Thr Gly Tyr Ile Ser Gly Met Arg  
85 90 95  
Glu Ile Pro Phe Glu Asn Met Met Ala Arg Lys Pro Asn Tyr Ile Ile  
100 105 110  
Glu His Ala Ile Lys Gly Met Met Pro Arg Thr Arg Leu Gly Lys Lys  
115 120 125  
Gln Leu Lys Ser Leu Arg Ile Val Lys Gly Asp Ser Tyr Glu Thr Phe  
130 135 140  
Glu Ser Gln Lys Pro Ile Leu Leu Asp Ile  
145 150

<210> 250

<211> 268

<212> PRT

<213> Chlamydia pneumoniae

<400> 250

Arg Ser Pro Pro Gly Tyr Leu Glu Ser Arg Val Arg Tyr Ala Thr Phe  
1 5 10 15  
Ser Arg Ser Phe Arg Ser Pro Ala Cys Lys Lys Ser Arg Lys Asn Ala  
20 25 30  
Cys Leu Arg Asn Phe Lys Ser Arg Leu Ala Met Ser Leu Leu Ile Glu  
35 40 45  
Ala Lys Asn Leu Ser Lys Thr Ile Gln Gln Gln Asn Gln Asn Ile Ser  
50 55 60  
Ile Leu Thr Asp Val Ser Leu Ser Leu His Ala Gly Glu Thr Ile Ser  
65 70 75 80  
Ile Thr Gly Ala Ser Gly Asn Gly Lys Thr Thr Leu Leu His Leu Leu  
85 90 95  
Gly Thr Leu Asp Val Pro Ser Ser Gly Ser Leu Arg Phe Phe Asp Lys  
100 105 110  
Asp Leu Lys Asn Gln Asp Leu Ala Asn Phe Arg Asn Gln His Ile Gly  
115 120 125  
Phe Val Phe Gln Asn Phe Tyr Leu Leu Glu Asp Asp Thr Val Leu Lys  
130 135 140

Asn Val Leu Met Pro Ala Leu Ile Ala Arg Lys Asn Ile Ser Lys Gly  
 145 150 155 160  
 Ser Pro Val Tyr Thr Arg Ala Leu Glu Leu Asp Leu Val Asn Leu  
 165 170 175  
 Glu Asp Lys Val Arg Thr Arg Cys Ser Lys Leu Ser Gly Gly Glu Lys  
 180 185 190  
 Gln Arg Val Ala Ile Ala Arg Ala Leu Ile Asn Glu Pro Ala Ile Leu  
 195 200 205  
 Leu Ala Asp Glu Pro Ser Gly Asn Leu Asp Glu Glu Thr Ser Glu Gln  
 210 215 220  
 Ile His Asn Leu Leu Leu Glu Gln Ala Ser Ala Leu Cys Gly Ile Leu  
 225 230 235 240  
 Ile Val Thr His Asn Lys His Leu Ala Ser Arg Cys Ser Arg Glu Gly  
 245 250 255  
 Val Leu Ser Asn Gly Lys Leu Phe Phe His Asn Ser  
 260 265

<210> 251  
 <211> 506  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 251  
 Leu Glu Val Met Lys Phe Glu Phe Ser Val Ala Leu Lys Tyr Leu Ile  
 1 5 10 15  
 Pro Gly Arg Gly Arg Leu Tyr Ser Ala Ile Val Ser Leu Phe Ser Val  
 20 25 30  
 Gly Ile Ile Ser Leu Val Val Trp Leu Ser Ile Val Phe Ile Ser Val  
 35 40 45  
 Ile His Gly Leu Glu Gln Arg Trp Ile Glu Asp Leu Ser Gln Leu His  
 50 55 60  
 Ser Pro Ile Thr Ile Leu Pro Ser Asp Thr Tyr Tyr Ser Ser Tyr Tyr  
 65 70 75 80  
 Tyr Gln Ile Asp Lys His Ser Ser Leu Ser Asn Tyr Thr Thr Lys Thr  
 85 90 95  
 Leu Gly Glu Lys Ile Ala Ser Pro Gln Val Asp Pro Tyr Asp Pro Glu  
 100 105 110  
 Ser Asp Tyr Leu Leu Pro Glu Thr Phe Pro Leu Lys Asp Cys Asp Leu  
 115 120 125  
 Gly Gly Gln Gln Lys Asp Pro Val Lys Met Thr Leu Glu Ser Leu Gly  
 130 135 140  
 Pro Tyr Leu Gln Ser Gln His Gly Lys Val Ile Glu Phe Glu Gln Gly  
 145 150 155 160  
 Val Gly Tyr Leu Asp Ile Lys Thr Ser Leu Lys Leu Gln Lys Pro Gln  
 165 170 175  
 Pro Arg Asn Leu Thr His Phe Leu Thr Tyr Pro Ser Lys Leu Ser Tyr  
 180 185 190  
 Glu Asp Lys Val Leu Pro Tyr Asp Glu Thr Asp Tyr Thr Ser Ala Glu  
 195 200 205  
 Leu Asn Pro Phe Asn Arg Ser Pro Ser Gly Trp Gln Gln Asp Phe His  
 210 215 220  
 His Leu Glu Glu Leu Tyr Arg Gly Ala Ser Ile Ile Leu Pro Ser Thr  
 225 230 235 240  
 Tyr Lys Asp Ser Gly Tyr Lys Val Gly Asp Thr Gly Val Phe Ser Thr  
 245 250 255  
 Tyr Ser Ile Glu Asn Glu Lys Glu Thr Gln Tyr Thr Val His Val Ile  
 260 265 270  
 Gly Phe Tyr Asn Pro Gly Leu Ser Pro Leu Gly Gly Arg Thr Val Phe  
 275 280 285  
 Ile Asp Pro Asp Leu Ala Arg Ser Ile Arg Ser Gln Ser Glu Gly Leu  
 290 295 300

Gly Met Ser Asn Gly Phe His Leu Phe Phe Pro Asn Thr Lys Arg Ile  
 305 310 315 320  
 Val Phe Val Lys Lys Gln Ile Glu Asn Ile Leu Thr Ser Leu Gly Val  
 325 330 335  
 Asp Asp Tyr Trp Glu Ile Ser Ser Leu His Asp Tyr Asp Tyr Phe Gln  
 340 345 350  
 Pro Ile Leu Asp Gln Leu Gln Ser Asp Gln Val Leu Phe Leu Phe Val  
 355 360 365  
 Cys Ile Leu Ile Leu Ile Val Ala Cys Ser Asn Ile Val Thr Met Ser  
 370 375 380  
 Met Leu Leu Val Asn Asn Lys Lys Lys Glu Ile Gly Ile Leu Lys Ala  
 385 390 395 400  
 Met Gly Thr Ser Ser Arg Ser Leu Lys Ile Ile Phe Ala Cys Cys Gly  
 405 410 415  
 Ala Phe Ser Gly Ala Cys Gly Val Val Ile Gly Thr Ile Phe Ala Ile  
 420 425 430  
 Ile Thr Leu Lys Asn Leu Gln Phe Ile Val Lys Ala Leu Asn Tyr Leu  
 435 440 445  
 Gln Gly Arg Glu Thr Phe Asn Thr Ala Phe Phe Gly Gln Asn Leu Pro  
 450 455 460  
 Asn Ser Val His Pro Gln Ala Ile Tyr Phe Leu Gly Leu Gly Thr Leu  
 465 470 475 480  
 Leu Leu Ala Ala Val Ser Gly Ala Leu Pro Ala Arg Lys Val Ala Lys  
 485 490 495  
 Met His Val Ser Glu Ile Leu Lys Ala Asp  
 500 505

<210> 252  
 <211> 56  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 252  
 Lys Asp Ser Ser Met Ala Ser Lys Asn Arg Glu Ile Ile Lys Leu Lys  
 1 5 10 15  
 Ser Ser Glu Ser Ser Asp Met Tyr Trp Thr Val Lys Asn Lys Arg Lys  
 20 25 30  
 Thr Thr Gly Arg Leu Glu Leu Lys Lys Tyr Asp Arg Lys Leu Arg Arg  
 35 40 45  
 His Val Ile Phe Lys Glu Ala Arg  
 50 55

<210> 253  
 <211> 508  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 253  
 Ser Pro Asp Ser Cys Leu Pro Trp Met Ser Pro Phe Lys Lys Ile Val  
 1 5 10 15  
 Asn Arg Leu Leu Cys Tyr Ile Ser Phe Gln Lys Glu Ser Arg Thr Leu  
 20 25 30  
 Pro Ile Ile Ile Arg Glu Pro Arg Met Thr Thr Lys Ser Leu Gly Ser  
 35 40 45  
 Phe Asn Ser Val Ile Ser Lys Asn Lys Ile His Phe Ile Ser Leu Gly  
 50 55 60  
 Cys Ser Arg Asn Leu Val Asp Ser Glu Val Met Leu Gly Ile Leu Leu  
 65 70 75 80  
 Lys Ala Gly Tyr Glu Ser Thr Asn Glu Ile Glu Asp Ala Asp Tyr Leu  
 85 90 95

Ile Leu Asn Thr Cys Ala Phe Leu Lys Ser Ala Arg Asp Glu Ala Lys  
 100 105 110  
 Asp Tyr Leu Asp His Leu Ile Asp Val Lys Lys Glu Asn Ala Lys Ile  
 115 120 125  
 Ile Val Thr Gly Cys Met Thr Ser Asn His Lys Asp Glu Leu Lys Pro  
 130 135 140  
 Trp Met Ser His Ile His Tyr Leu Leu Gly Ser Gly Asp Val Glu Asn  
 145 150 155 160  
 Ile Leu Ser Ala Ile Glu Ser Arg Glu Ser Gly Glu Lys Ile Ser Ala  
 165 170 175  
 Lys Ser Tyr Ile Glu Met Gly Glu Val Pro Arg Gln Leu Ser Thr Pro  
 180 185 190  
 Lys His Tyr Ala Tyr Leu Lys Val Ala Glu Gly Cys Arg Lys Arg Cys  
 195 200 205  
 Ala Phe Cys Ile Ile Pro Ser Ile Lys Gly Lys Leu Arg Ser Lys Pro  
 210 215 220  
 Leu Asp Gln Ile Leu Lys Glu Phe Arg Ile Leu Val Asn Lys Ser Val  
 225 230 235 240  
 Lys Glu Ile Ile Leu Ile Ala Gln Asp Leu Gly Asp Tyr Gly Lys Asp  
 245 250 255  
 Leu Ser Thr Asp Arg Ser Ser Gln Leu Glu Ser Leu Leu His Glu Leu  
 260 265 270  
 Leu Lys Glu Pro Gly Asp Tyr Trp Leu Arg Met Leu Tyr Leu Tyr Pro  
 275 280 285  
 Asp Glu Val Ser Asp Gly Ile Ile Asp Leu Met Gln Ser Asn Pro Lys  
 290 295 300  
 Leu Leu Pro Tyr Val Asp Ile Pro Leu Gln His Ile Asn Asp Arg Ile  
 305 310 315 320  
 Leu Lys Gln Met Arg Arg Thr Thr Ser Arg Glu Gln Ile Leu Gly Phe  
 325 330 335  
 Leu Glu Lys Leu Arg Ala Lys Val Pro Gln Val Tyr Ile Arg Ser Ser  
 340 345 350  
 Val Ile Val Gly Phe Pro Gly Glu Thr Gln Glu Glu Phe Gln Glu Leu  
 355 360 365  
 Ala Asp Phe Ile Gly Glu Gly Trp Ile Asp Asn Leu Gly Ile Phe Leu  
 370 375 380  
 Tyr Ser Gln Glu Ala Asn Thr Pro Ala Ala Glu Leu Pro Asp Gln Ile  
 385 390 395 400  
 Pro Glu Lys Val Lys Glu Ser Arg Leu Lys Ile Leu Ser Gln Ile Gln  
 405 410 415  
 Lys Arg Asn Val Asp Lys His Asn Gln Lys Leu Ile Gly Glu Lys Ile  
 420 425 430  
 Glu Ala Val Ile Asp Asn Tyr His Pro Glu Thr Asn Leu Leu Thr  
 435 440 445  
 Ala Arg Phe Tyr Gly Gln Ala Pro Glu Val Asp Pro Cys Ile Ile Val  
 450 455 460  
 Asn Glu Ala Lys Leu Val Ser His Phe Gly Glu Arg Cys Phe Ile Glu  
 465 470 475 480  
 Ile Thr Gly Thr Ala Gly Tyr Asp Leu Val Gly Arg Val Val Lys Lys  
 485 490 495  
 Ser Gln Asn Gln Ala Leu Leu Lys Thr Ser Lys Ala  
 500 505

<210> 254

<211> 179

<212> PRT

<213> Chlamydia pneumoniae

<400> 254

Ala Thr Ser Thr Val Cys Ala Leu Trp Ile Leu Gln Thr Tyr Gln Ser  
 1 5 10 15

His Asp Asp Ala Ala Ser Cys Ser Phe Arg Arg Ala Cys Arg Phe Gly  
                   20                  25                  30  
 Arg Tyr Trp Leu Gly Gly Val Asn Val Pro Trp Asn Lys Phe Asn Gln  
                   35                  40                  45  
 Thr Ser Thr Gln Ser Thr Val Ile Asn Ser Ala Ile Tyr Ile Asp Ser  
                   50                  55                  60  
 Ser Gln Thr Trp Met Met Arg Phe Gln Ala Ser Ala Ser Ile Pro Arg  
 65                  70                  75                  80  
 Leu Phe Arg Ile Ser Ile Phe Met Thr Lys His Gly Asp Trp Ile Asp  
                   85                  90                  95  
 Asn Gly Thr Gly Gly Glu Leu Leu Leu Val Ala Tyr Glu Ala Asn Gln  
                   100                  105                  110  
 Asn Pro Leu Phe Pro Asp Ile Arg Ile Glu Leu Ala Met Ser Thr Cys  
                   115                  120                  125  
 Ser Gly Thr Ser Tyr Tyr Arg Ala Arg Pro Met Gln Trp Leu Cys Ser  
                   130                  135                  140  
 Thr Tyr Tyr Ala Val Arg Pro Gly Tyr Phe Val Leu Glu Asn Arg Ser  
 145                  150                  155                  160  
 Tyr Ser Phe Arg Val Gln Ser Phe Ser Trp Asn Ile Ala Thr Leu Pro  
                   165                  170                  175  
 Phe Val Asn

<210> 255  
 <211> 175  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 255  
 Phe Cys Gly Gly Arg Leu Met Ser Ser Ser Ile Pro Thr Thr Gln Lys  
   1                  5                  10                  15  
 Ile Thr Ile Ser Ile Pro Thr Phe Val Arg Phe Asn Ile Glu Ser Ile  
                   20                  25                  30  
 Asn Leu Thr Asp Glu Gln Lys Lys Thr Ala Leu Thr Ile Gly Gln Asn  
                   35                  40                  45  
 Ile Ala Thr Glu Asn Thr Gln Val Leu Gly Asn Phe Val Asp Ala Asp  
                   50                  55                  60  
 Gly Gly Leu Ile Cys Gln Asn Asp Leu Ser Val Gly Gly Asn Ile Asn  
 65                  70                  75                  80  
 Ile Thr Pro Gln Thr Phe Asn Thr Met Val Phe Ser Gly Arg Val Asn  
                   85                  90                  95  
 Leu Ser Asn Ser Pro Phe Ser Tyr Gln Asp Ser Leu Gly Asn Lys Arg  
                   100                  105                  110  
 Gln Asp Tyr Ala Asn Ile Asn Thr Glu Gln Pro Gln Gln Tyr Val Pro  
                   115                  120                  125  
 Tyr Gly Tyr Tyr Lys Leu Thr Arg Val Met Met Met Gln Arg Ala Ala  
                   130                  135                  140  
 Leu Ser Gly Gly His Val Gly Ser Gly Asp Ile Gly Trp Gly Glu Ser  
 145                  150                  155                  160  
 Met Tyr Leu Gly Ile Ser Ser Ile Lys Arg Gln His Lys Val Gln  
                   165                  170                  175

<210> 256  
 <211> 270  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 256  
 Ile Pro Met Lys Thr Leu Gly Val Lys Asp Gln Asn Leu Phe Ile Asp  
   1                  5                  10                  15

Gln	Ala	Thr	Leu	Ser	Val	Glu	Arg	Asn	Val	Arg	Ile	Glu	Asn	Asn	Leu
			20					25					30		
Glu	Thr	Arg	Asp	Leu	Lys	Val	Leu	Asp	Thr	Thr	Thr	Ser	Pro	Cys	Glu
		35					40					45			
Phe	Ile	Val	Lys	Gly	Asn	Val	Ser	Ala	Glu	Gly	Ser	Gln	Leu	Asn	Ala
	50					55					60				
Thr	Thr	Leu	Ser	Asp	Gly	Phe	Asn	Ile	Tyr	Ser	Lys	Thr	Asp	Val	Ser
65					70					75				80	
Gln	Thr	Pro	Val	Cys	Asn	Asn	Ile	Ser	Asp	Pro	Gln	Ser	Ala	Arg	Asp
				85					90					95	
Ala	Leu	Thr	Phe	Ser	Tyr	Tyr	Arg	Lys	Thr	Gly	Cys	Gln	Ala	Ala	Asn
			100					105					110		
Leu	Tyr	Thr	Tyr	Tyr	Pro	Gly	Asn	Gly	Tyr	Tyr	Val	Ala	Pro	Asn	Thr
		115					120					125			
Thr	Ile	Glu	Thr	His	Val	Ala	Ala	Ile	Thr	Ser	Lys	Ser	Val	Ser	Arg
	130					135					140				
Asn	Ala	Thr	Pro	Asp	Phe	Ser	Arg	Tyr	Ala	Asp	Ile	Glu	Pro	Val	Val
145					150					155				160	
Lys	Leu	Lys	Gln	Val	Gly	Ile	Tyr	Gln	Val	Thr	Met	Gln	Leu	Thr	Arg
			165						170					175	
Trp	Ser	Gly	Gln	His	Asp	Gly	Asp	Asn	Ser	Ala	Thr	Leu	Ile	Leu	Asn
			180					185					190		
Phe	Val	Ser	Gly	Asn	Asn	Lys	Thr	Leu	Leu	Cys	Thr	Ser	Asp	Thr	Arg
		195					200					205			
Gly	Gly	Tyr	Ser	Ser	Asp	Arg	Thr	Ser	Val	Ala	Val	Thr	Ala	Ile	Phe
	210				215						220				
Ser	Val	Thr	Glu	Leu	Val	Ser	Ser	Pro	Pro	Tyr	Asp	Tyr	Pro	Trp	Ile
225					230					235				240	
Asn	Leu	Glu	Ser	Thr	Ile	Trp	Met	Asn	Leu	Met	Ser	Leu	Ser	Thr	Cys
			245					250						255	
Val	Ile	Trp	Phe	Pro	Phe	Pro	Ser	Asn	Phe	Val	Glu	Val	Asp		
			260					265					270		

<210> 257

<211> 285

<212> PRT

<213> Chlamydia pneumoniae

<400> 257

Thr	Leu	Leu	Lys	Val	Ile	Met	Lys	Asn	Asn	Ile	Asn	Asn	Asn	Glu	Cys
1			5					10						15	
Tyr	Phe	Lys	Leu	Asp	Ser	Thr	Val	Asp	Gly	Asp	Leu	Leu	Ala	Ala	Asn
			20					25					30		
Leu	Lys	Thr	Phe	Asp	Thr	Gln	Ala	Gln	Gly	Ile	Ser	Ser	Thr	Glu	Thr
		35					40					45			
Phe	Ser	Val	Gln	Gly	Asn	Ala	Thr	Phe	Lys	Asp	Gln	Val	Ser	Ala	Thr
	50					55				60					
Gly	Leu	Thr	Ser	Gly	Thr	Thr	Tyr	Asn	Leu	Asn	Ala	Gln	Asn	Phe	Thr
65					70					75				80	
Ser	Ser	Gln	Ile	Ser	Ile	Asp	Phe	Lys	Asn	Asn	Arg	Leu	Ser	Asn	Cys
			85					90						95	
Ala	Leu	Pro	Lys	Glu	Asp	Cys	Asp	Pro	Val	Pro	Ala	Asn	Tyr	Val	Arg
			100					105					110		
Ser	Pro	Glu	Tyr	Phe	Phe	Cys	Ser	Lys	Pro	Leu	Ile	Gly	Asp	Phe	Asp
		115					120					125			
Phe	Asn	Ser	Gly	Glu	Ser	Tyr	Leu	Pro	Leu	Thr	Gly	Ser	Glu	Tyr	Thr
	130					135					140				
Leu	Tyr	Gln	Ser	Arg	Asn	Val	Asn	Ser	Ile	Phe	Arg	Phe	Ile	Gly	Trp
145					150					155				160	
Lys	Gln	Ser	Thr	Arg	Glu	Leu	Thr	Val	Gly	Gly	Asn	Thr	Ala	Ile	Gln
			165						170					175	

Phe	Leu	Ala	Ala	Gly	Thr	Tyr	Ile	Val	Ser	Phe	Thr	Val	Gly	Lys	Arg
			180					185					190		
Trp	Gly	Trp	Asn	Asn	Gly	Trp	Gly	Gly	Ala	Ile	Tyr	Ile	Asn	Asn	Gly
		195					200					205			
Leu	Gly	Gln	Val	Gln	Cys	Glu	Ser	Thr	Ile	Tyr	Ser	Gly	Gly	Gly	Tyr
	210					215					220				
Ala	Thr	Ile	Gly	Thr	Leu	Gly	Thr	Ser	Ile	Tyr	Arg	Ala	Ser	Val	Asp
225					230					235					240
Val	Ala	Pro	Asn	Pro	Asn	Asp	Pro	Asn	Ala	Ser	Asp	Arg	Tyr	Arg	Ala
			245						250					255	
Gly	Ile	Phe	Tyr	Leu	Ser	Asn	Gly	Gly	Ser	Ser	Ala	Gly	Ile	Gly	Asn
		260						265					270		
Tyr	Ser	Phe	Ser	Leu	Leu	Tyr	Tyr	Pro	Asp	Asp	Arg	Gly			
		275					280					285			

<210> 258

<211> 295

<212> PRT

<213> Chlamydia pneumoniae

<400> 258

Phe	Cys	Gly	Gly	Arg	Leu	Met	Ser	Asn	Pro	Thr	Pro	Lys	Thr	Lys	Ile
1				5					10					15	
Ser	Ile	Pro	Thr	Phe	Val	Arg	Phe	Asn	Ile	Gln	Ser	Ile	Asn	Leu	Thr
			20					25					30		
Glu	Asp	Gln	Lys	Lys	Thr	Thr	Phe	Thr	Val	Gly	Gly	Lys	Val	Thr	Thr
	35						40					45			
Glu	Asn	Thr	Val	Val	Arg	Gly	Asp	Leu	Thr	Cys	Thr	Asp	Gly	Gly	Leu
	50					55				60					
Thr	Cys	Gln	Ser	Asp	Leu	Thr	Ile	Gln	Lys	Asp	Ile	Asn	Ile	Arg	Pro
65				70					75					80	
Thr	Ser	Thr	Asn	Ser	Met	Val	Phe	Asp	Gly	Arg	Leu	Asn	Leu	Ser	Asn
			85					90					95		
Ser	Pro	Leu	Ser	Tyr	Lys	Asn	Ser	Gln	Gly	Gln	Asp	Ile	Thr	Asp	Tyr
			100					105					110		
Glu	Lys	Met	Ser	Ser	Gly	Lys	Pro	Gln	Glu	Tyr	Val	Pro	Phe	Gly	Tyr
	115						120					125			
Tyr	Lys	Arg	Thr	Gln	Ile	Met	Met	Ala	Gln	Arg	Ala	Ala	His	Ser	Ser
	130					135				140					
Gly	Tyr	Val	Gly	Gly	Gly	Ser	Val	Pro	Ser	Gly	Ser	Tyr	Val	Pro	Trp
145				150						155				160	
Asn	Lys	Phe	Asp	Gln	Thr	Ser	Thr	Gln	Lys	Thr	Ser	Gly	Thr	Glu	Ile
			165						170					175	
Tyr	Ile	Asp	Pro	Asn	Asp	Ser	Thr	Lys	Leu	Val	Phe	Glu	Val	Asn	Asn
		180						185					190		
Lys	Val	Pro	Lys	Leu	Phe	Arg	Ile	Ser	Val	Ile	Met	Ala	Lys	His	Gly
		195					200					205			
Ser	Trp	Leu	Asp	Asn	Gly	Thr	Gly	Ala	Asp	Ile	Leu	Leu	Ala	Ala	Asn
	210					215					220				
Glu	Tyr	Glu	Gln	Gly	Gly	Gly	Arg	Ile	Asn	Val	Thr	Asp	Leu	Ala	Met
225				230						235					240
Thr	Thr	Ser	Arg	Gly	Ser	Ser	Tyr	Tyr	Glu	Thr	Arg	Pro	Leu	Gln	Val
				245					250					255	
Val	Cys	Val	Thr	Tyr	Tyr	Ala	Gln	Asn	Asn	Gly	Tyr	Phe	Thr	Phe	Gln
			260					265					270		
Asn	Arg	Ala	Gly	Gly	Gly	Leu	Arg	Val	Ser	Phe	Phe	Ser	Trp	Asn	Ile
		275					280					285			
Val	Ala	Leu	Pro	Tyr	Val	Glu									
		290				295									

<210> 259  
 <211> 290  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 259  
 Gly Val Val Met Lys Arg Arg Asn Leu Gln Lys Ile Leu Pro Asn Ala  
 1 5 10 15  
 Ser Thr Pro Ser Thr Asn Val Ala Glu Asn Thr Gly Ile Lys Asp Gln  
 20 25 30  
 Asn Leu Phe Leu Asp Gln Ala Thr Leu Asn Val Asp Gly Asn Val Asp  
 35 40 45  
 Ile Glu Asn Phe Leu Glu Thr Arg Asp Leu Lys Val Ala Asp Thr Ile  
 50 55 60  
 Thr Ser Pro Cys Glu Phe Thr Val Gly Gly Gly Leu Ser Ala Glu Ser  
 65 70 75 80  
 Ser Gln Phe Lys Ala Thr Thr Leu Ser Lys Gly Leu Glu Ile Thr Ser  
 85 90 95  
 Glu Asp Gln Asp Gly Arg Val Pro Lys Phe Thr Asn Val Ser Asp Pro  
 100 105 110  
 Gln Ser Pro Arg Asp Ala Leu Thr Tyr Asn Tyr Tyr Arg Asn Thr Gly  
 115 120 125  
 Cys Gln Ala Leu Asn Leu Tyr Thr Tyr Tyr Ser Ser Ser Gln Pro Thr  
 130 135 140  
 Thr Val Gly Lys Pro Ile Glu Thr Val Cys Gln Asn Pro Asn Pro Glu  
 145 150 155 160  
 Thr Tyr Arg Ile Ser Ala Ser Ala Lys Ile Tyr Asp Ala Val Thr Arg  
 165 170 175  
 Phe Pro Tyr Ile Gln Phe Lys Ala Pro Gly Ile Tyr Gln Val Thr Ile  
 180 185 190  
 Gln Ile Arg Arg Glu Ser Gly Gln His Ser Gly Leu Asp Asn Pro Asn  
 195 200 205  
 Leu Tyr Leu Asn Leu Met Ile Gly Asn Asn Lys Thr Leu Leu Cys Ala  
 210 215 220  
 Ser Asp Thr Arg Gly Tyr Ser Gly Gly His Arg Thr Ser Ile Ala Val  
 225 230 235 240  
 Thr Gly Thr Phe Thr Leu Thr Glu Ile Val Ala Thr Pro Pro His Asp  
 245 250 255  
 Tyr Pro Trp Leu Phe Leu Glu Thr Thr Ile Gly Leu Asp Ile Lys Ser  
 260 265 270  
 Met Ser Thr Cys Val Ile Trp Phe Pro Phe Gln Ala Asn Phe Ala Glu  
 275 280 285  
 Val Asp  
 290

<210> 260  
 <211> 134  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 260  
 Cys Phe Ser Phe Cys Arg Leu Gly Ser Lys Phe Glu Lys Ile Thr Leu  
 1 5 10 15  
 Gly Gly Asn Thr Ala Ile Gln Leu Leu Ala Ala Gly Thr Tyr Ile Leu  
 20 25 30  
 Thr Phe Thr Ile Gly Lys Arg Trp Gly Trp Asn Asn Gly Trp Gly Gly  
 35 40 45  
 Ser Ile Arg Leu Phe Glu Gly Lys Tyr Thr Gly Asp Gly Thr Met Leu  
 50 55 60  
 Cys Gly Ser Thr Val Tyr Ser Gly Gly Gly Tyr Ser Thr Ile Gly Tyr  
 65 70 75 80





Gln Ile Thr Lys Asn Lys Glu Val Met Ser Lys Lys Ala Leu Lys Lys  
100 105 110  
Ala Gln Ala Lys Glu Glu Lys Leu Val Thr Glu Lys Leu Gln Gln His  
115 120 125  
Asn Phe Glu Ile Leu Asn Thr Gly Glu Asn Leu Ala Pro Pro Met Glu  
130 135 140  
Ser Thr Ala Thr Leu Asn Gln Asp Thr Asn Phe Val Cys Glu Asp Phe  
145 150 155 160  
Ile Pro Thr Gln Glu Asp Phe Arg Ile Ser Glu Asn Ser Gln Lys Pro  
165 170 175  
Pro Val Glu Glu Asp  
180

<210> 263  
<211> 254  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 263  
Tyr Ser Phe Asn His Pro Phe Ile Val Phe Met Ser Thr Leu Leu Leu  
1 5 10 15  
Asn Pro Pro Trp Met Lys Ala Gly Lys Arg Ile Glu Ser Leu Val Arg  
20 25 30  
Lys Ala Leu Tyr Thr His Thr Met Leu Ala Asn His Arg Lys Ile Val  
35 40 45  
Val Ala Leu Ser Gly Gly Lys Asp Ser Leu Thr Leu Leu Met Leu  
50 55 60  
Lys Ala Ile Ser Gly Arg Gly Phe Pro Asp Leu Asp Leu His Ala Val  
65 70 75 80  
Asn Ile Gly Gly Lys Tyr Ser Cys Gly Ala Glu Val Asn Lys Pro Tyr  
85 90 95  
Leu Thr Arg Ile Cys Asp Gln Leu Cys Ile Pro Phe Arg Thr Ile Pro  
100 105 110  
Ser Pro Tyr Ala Pro Glu Thr Pro Glu Cys Tyr Pro Cys Ser Gln Ala  
115 120 125  
Arg Arg Arg Leu Leu Phe Gln Ala Ala Lys Glu Ile Gly Ala Ser Ala  
130 135 140  
Ile Ala Phe Gly His His Arg Asp Asp Leu Val Gln Thr Ala Leu Leu  
145 150 155 160  
Asn Leu Leu His Lys Ala Glu Phe Ala Gly Met Leu Pro Val Leu Asp  
165 170 175  
Met Val His Phe Gly Val Thr Ile Leu Arg Pro Leu Ile Phe Thr Pro  
180 185 190  
Glu Phe Trp Ile Arg Lys Phe Ala Lys Glu Asn Gly Phe Ala Arg Val  
195 200 205  
Thr Cys Arg Cys Pro Val Val Ser Leu Arg Ser Lys Ala Glu Gln Ser  
210 215 220  
Leu Lys Leu Leu Glu Glu Val Phe Pro Leu Ala Arg His Asn Ile Ala  
225 230 235 240  
Leu Ala Ile Gln Glu His Gly Ser Ser Lys Ser Gln Lys Ile  
245 250

<210> 264  
<211> 293  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 264  
Leu Ile Phe Asn Ile Asn Lys Glu Val Lys Val Tyr Leu Val Leu Met  
1 5 10 15

Asn Lys Arg Leu Lys Ile Ile Leu Thr Asn Asp Asp Gly Ile Thr Ala  
                   20                                  25                                  30  
 Lys Gly Met Ser Cys Leu Val Ser Ala Leu Leu Glu Ala Asn Ile Gly  
                   35                                  40                                  45  
 Asp Ile Tyr Ile Ala Ala Pro Gln Ala Glu Gln Ser Gly Lys Ser Met  
                   50                                  55                                  60  
 Ala Ile Ser Leu Asn Gln Val Val Cys Ala Ser Pro Tyr Ala Tyr Pro  
                   65                                  70                                  75                                  80  
 Gln Pro Val Lys Glu Ala Trp Ala Val Gly Gly Ser Pro Thr Asp Cys  
                                   85                                  90                                  95  
 Val Arg Leu Gly Leu Arg Thr Leu Phe Glu Ser Val Ser Pro Asp Leu  
                                   100                                  105                                  110  
 Val Ile Ser Gly Ile Asn Cys Gly Asn Asn Ile Cys Lys Asn Ala Trp  
                                   115                                  120                                  125  
 Tyr Ser Gly Thr Ile Gly Ala Ala Lys Gln Ala Leu Val Asp Gly Ile  
                   130                                  135                                  140  
 Pro Ser Met Ala Leu Ser Gln Asp Asn His Ile Ser Phe Phe Gln Gln  
                   145                                  150                                  155                                  160  
 Asp Lys Ala Pro Glu Ile Leu Lys Ala Leu Val Ile Tyr Leu Leu Ser  
                                   165                                  170                                  175  
 Gln Pro Phe Pro Cys Leu Thr Gly Leu Asn Ile Asn Phe Pro Thr Ser  
                                   180                                  185                                  190  
 Pro Gly Gly Ser Ser Trp Glu Gly Met Arg Leu Val Pro Pro Gly Asp  
                                   195                                  200                                  205  
 Glu Phe Phe Tyr Glu Glu Pro Gln Tyr Leu Gly Ser Val Asn Lys Asn  
                   210                                  215                                  220  
 Gln Tyr Tyr Val Gly Lys Ile Ser Gly Val Arg Ile Gly Glu His Pro  
                   225                                  230                                  235                                  240  
 Ser Glu Glu Leu Ala Cys Met Leu Glu Asn His Ile Ser Val Ser Pro  
                                   245                                  250                                  255  
 Ile Phe Ser Gln Asn Ser Pro Ile Gly Leu Met Thr Leu Glu Glu Phe  
                                   260                                  265                                  270  
 Gln Lys Thr Gln Glu Asn Phe Asn Ala Ser Leu Leu Ser Ser Glu Leu  
                   275                                  280                                  285  
 Thr Thr Lys Ile Phe  
                   290

<210> 265

<211> 321

<212> PRT

<213> Chlamydia pneumoniae

<400> 265

Ser Thr Ala Leu Ser Arg Arg Lys Leu Arg Val Arg Pro Pro Ser Leu  
   1                                  5                                  10                                  15  
 Ala Lys Tyr Ala Phe Arg Gly Phe Arg Met Ser His Gly Pro Arg Pro  
                   20                                  25                                  30  
 Thr Lys Phe Ser Phe Pro Leu Tyr Phe Ser Lys Thr Leu Ser Trp Phe  
                   35                                  40                                  45  
 Ile Leu Gly Gly Phe Leu Ala Cys Gly Val Gln Met Val Leu Val  
                   50                                  55                                  60  
 Pro Asn Glu Leu Ile Asp Gly Gly Ile Val Gly Leu Ser Ile Ile Ala  
                   65                                  70                                  75                                  80  
 Ser His Phe Leu Gly His Lys Ala Leu Pro Phe Cys Leu Val Leu Phe  
                                   85                                  90                                  95  
 Asn Leu Pro Phe Val Phe Leu Ala Phe Lys Gln Ile Gly Lys Tyr Phe  
                                   100                                  105                                  110  
 Val Ile Gln Met Leu Thr Ala Val Ile Ile Phe Ser Cys Ser Leu Trp  
                                   115                                  120                                  125  
 Leu Ile Asp Gln Leu Pro Ser Trp Leu Gly Met Ser Pro Phe Val Phe  
                   130                                  135                                  140

Lys Gly Ser Glu Met Glu Thr Val Val Leu Gly Gly Ala Ile Ile Gly  
 145 150 155 160  
 Val Gly Cys Gly Leu Ile Ile Arg His Gly Gly Ser Thr Asp Gly Thr  
 165 170 175  
 Glu Ile Leu Gly Ile Ile Ile Asn Lys Lys Lys Gly Tyr Thr Val Gly  
 180 185 190  
 Gln Ile Ile Leu Phe Val Asn Phe Phe Ile Phe Ala Leu Ser Gly Ile  
 195 200 205  
 Val Tyr Lys Asn Trp His Thr Ala Phe Val Ser Phe Leu Thr Tyr Gly  
 210 215 220  
 Ile Ala Thr Lys Val Met Asp Met Val Ile Leu Gly Leu Glu Asp Thr  
 225 230 235 240  
 Lys Ser Val Thr Ile Ile Thr Ser Ser Pro Arg Lys Leu Gly His Ile  
 245 250 255  
 Leu Met Glu Thr Leu Gly Ile Gly Leu Thr Tyr Ile His Ala Glu Gly  
 260 265 270  
 Gly Tyr Ser Gly Glu Pro Arg Asn Leu Leu Tyr Val Val Val Glu Arg  
 275 280 285  
 Leu Gln Leu Ser Gln Leu Lys Glu Ile Val His Arg Glu Asp Pro Ser  
 290 295 300  
 Ala Phe Ile Ala Ile Glu Asn Leu His Glu Val Ile Asn Gly Arg Arg  
 305 310 315 320  
 Thr

<210> 266  
 <211> 192  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 266  
 Met Lys Arg Tyr Val Val Gly Ile Ser Gly Ala Ser Gly Val Ile Leu  
 1 5 10 15  
 Ala Val Lys Leu Ile Lys Glu Leu Val Asn Ala Lys His Gln Val Glu  
 20 25 30  
 Val Ile Ile Ser Pro Ser Gly Arg Lys Thr Leu Tyr Tyr Glu Leu Gly  
 35 40 45  
 Cys Gln Ser Phe Asp Ala Leu Phe Ser Glu Glu Asn Leu Glu Tyr Ile  
 50 55 60  
 His Thr His Ser Ile Gln Ala Ile Glu Ser Ser Leu Ala Ser Gly Ser  
 65 70 75 80  
 Cys Pro Val Glu Ala Thr Ile Ile Ile Pro Cys Ser Met Thr Thr Val  
 85 90 95  
 Ala Ala Ile Ser Ile Gly Leu Ala Asp Asn Leu Leu Arg Arg Val Ala  
 100 105 110  
 Asp Val Ala Leu Lys Glu Arg Arg Pro Leu Ile Leu Val Pro Arg Glu  
 115 120 125  
 Thr Pro Leu His Thr Ile His Leu Glu Asn Leu Leu Lys Leu Ser Lys  
 130 135 140  
 Ser Gly Ala Thr Ile Phe Pro Pro Met Pro Met Trp Tyr Phe Lys Pro  
 145 150 155 160  
 Gln Ser Val Glu Asp Leu Glu Asn Ala Leu Val Gly Lys Ile Leu Ala  
 165 170 175  
 Tyr Leu Asn Ile Pro Ser Asp Leu Thr Lys Gln Trp Ser Asn Pro Glu  
 180 185 190

<210> 267  
 <211> 301  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 267

Lys	Ile	Ile	Ile	Val	Arg	Leu	Asn	Tyr	Phe	Leu	Asn	Leu	Val	Asn	Phe
1				5					10					15	
Lys	Tyr	Ser	Ile	Phe	Ser	Ile	Leu	Phe	Leu	Ser	Ala	Ser	Thr	Val	Phe
			20					25					30		
Ala	Leu	Ser	Ile	Asn	Glu	Ile	Ser	Gln	Asn	Leu	Ser	Phe	Lys	Glu	Gly
		35					40					45			
Phe	Lys	Ile	Ser	Val	Phe	Gly	Ala	Ile	Ala	Phe	Val	Phe	Ala	Arg	Thr
	50					55					60				
Thr	Gly	Ile	Val	Val	Asn	Gln	Cys	Ile	Asp	Arg	Phe	Ile	Asp	Lys	Lys
65					70					75				80	
Asn	Thr	Arg	Thr	Ser	Lys	Arg	Val	Leu	Pro	Ala	Asn	Leu	Val	Ser	Leu
				85					90					95	
Asn	Phe	Ala	Trp	Val	Leu	Ser	Leu	Phe	Cys	Ser	Phe	Leu	Phe	Leu	Phe
			100					105					110		
Leu	Cys	Lys	Ile	Leu	Arg	Ile	Phe	Ser	Leu	Gly	Ile	Ala	Ser	Leu	Thr
		115					120					125			
Leu	Met	Ile	Val	Tyr	Pro	Tyr	Met	Lys	Arg	Val	Thr	Phe	Phe	Cys	His
	130					135					140				
Trp	Gly	Leu	Gly	Leu	Val	Tyr	Thr	Val	Ala	Ile	Leu	Met	Asn	Phe	Cys
145					150					155				160	
Ala	Phe	Ala	Glu	Ser	Gly	Leu	Ser	Met	Arg	Leu	Cys	Phe	Leu	Ala	Leu
				165					170					175	
Leu	Trp	Gly	Gly	Ser	Val	Gly	Met	Val	Ile	Ala	Ala	Asn	Asp	Ile	Ile
			180					185					190		
Tyr	Ala	Ile	Glu	Asp	Thr	Glu	Phe	Asp	Arg	Glu	Glu	Gly	Leu	Arg	Ser
	195						200					205			
Val	Pro	Ala	His	Tyr	Gly	Glu	Lys	Lys	Ala	Val	Glu	Ile	Ala	Lys	Val
	210					215					220				
Asn	Leu	Trp	Val	Ser	Tyr	Leu	Ala	Tyr	Ile	Phe	Ser	Gly	Phe	Val	Gly
225					230					235				240	
Ser	Leu	Asp	Lys	Glu	Phe	Tyr	Phe	Thr	Ala	Ile	Ile	Pro	Leu	Val	Val
				245					250					255	
Ile	Leu	Lys	Val	Val	Arg	Met	Tyr	Ser	Asn	Tyr	Ser	Lys	Lys	Asp	Gln
			260					265					270		
Glu	Gly	Glu	Ser	Lys	Phe	Phe	Leu	Ala	Asn	Ile	Ala	Ile	Ala	Leu	Ser
		275					280					285			
Phe	Leu	Val	Ser	Met	Thr	Leu	Phe	Trp	Ser	Leu	Ser	Arg			
	290					295					300				

<210> 268

<211> 232

<212> PRT

<213> Chlamydia pneumoniae

<400> 268

Ile	Met	Ala	Leu	Asp	Glu	Ile	Asn	Asn	Gln	Asn	Asn	Pro	Ser	Gln	Gln
1				5					10					15	
Ile	Ala	Ser	Ser	Thr	Ser	Gln	Thr	Ser	Lys	Ile	Asn	Gln	Asp	Arg	Lys
			20					25					30		
Thr	Phe	Ala	Cys	Thr	Val	Thr	Leu	Val	Val	Ala	Thr	Leu	Met	Ile	
		35					40				45				
Leu	Ser	Gly	Ile	Val	Leu	Leu	Phe	Thr	Ile	Gly	Ser	Leu	Gly	Leu	Ser
	50					55				60					
Val	Pro	Leu	Ser	Gly	Ile	Leu	Gly	Thr	Phe	Ala	Val	Thr	Val	Gly	Ala
65					70					75				80	
Val	Leu	Phe	Ile	Thr	Gly	Leu	Thr	Ile	Leu	Val	Arg	Lys	Ser	Leu	Gly
				85					90					95	
Ile	Glu	Gln	Lys	Asn	Glu	Asp	Leu	Asn	Phe	Leu	Lys	Ile	Lys	Thr	Pro
			100					105					110		

Thr Pro Pro Ala Arg Pro Leu Met Ser Lys Phe Ser Val Thr Cys Ser  
           115                  120                  125  
 Thr Thr Ser Ile Val Leu Gly Met Ala Leu Leu Ile Gly Ala Val Val  
           130                  135                  140  
 Ser Val Phe Phe Leu Thr Gly Tyr Leu Gln Leu Gly Leu Cys Ala Gly  
 145                  150                  155                  160  
 Leu Val Gly Leu Gly Thr Ala Leu Phe Val Ala Gly Leu Ala Arg Met  
                   165                  170                  175  
 Ser Pro Arg Ser Leu Ala Asp Gln Glu Gly Ser Gly Ser Ala Asp Ser  
                   180                  185                  190  
 Gln Ser Asn Ile Val Gly Ile Gly Glu Pro Lys Ala Ala Gln Glu Gln  
           195                  200                  205  
 Lys Trp Tyr Lys Met Ala Val Val Arg Gly Glu Asp Gly Ile Pro Thr  
           210                  215                  220  
 Ala Ile Arg Leu Thr Pro Glu Lys  
 225                  230

<210> 269  
 <211> 263  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 269  
 Val Ser Ile Met Ser Leu Asn Lys Thr Asn Ala Leu Leu Asn Gln Pro  
   1                  5                  10                  15  
 Glu Pro Ala Val Cys Leu Asn Ala Trp Asp Pro Lys Tyr Ile Asn Gln  
           20                  25                  30  
 Asp Arg Lys Thr Phe Ala Cys Thr Val Thr Leu Leu Val Ile Ala Thr  
           35                  40                  45  
 Leu Met Ile Leu Thr Thr Gly Val Ile Val Leu Leu Ala Met Gly Ser  
   50                  55                  60  
 Pro Gly Leu Ser Val Leu Val Ser Thr Ile Ile Gly Thr Ser Val Thr  
   65                  70                  75                  80  
 Thr Leu Gly Thr Ala Leu Phe Ile Ile Gly Leu Val Lys Leu Ile Lys  
           85                  90                  95  
 Lys Ser Leu Ala Trp Ile Gln Tyr Gln Lys Tyr Phe Gln Glu Val Val  
           100                  105                  110  
 Lys Gln Lys Tyr Glu Pro Phe Ser Ile Pro Lys Asn Asp Asn Val His  
           115                  120                  125  
 Lys Leu Thr Ser Cys Leu Pro Ser Pro Leu Asp Ile Glu Ser Pro Ser  
   130                  135                  140  
 Pro Glu Ala Ser Thr Pro Val Ser Lys Leu Arg Ile Ala Cys Ser Gly  
 145                  150                  155                  160  
 Val Ala Ile Val Leu Gly Val Thr Leu Leu Ile Gly Ala Val Val Ser  
           165                  170                  175  
 Val Phe Phe Cys Thr Gly Tyr Leu Gln Leu Ala Leu Cys Val Gly Phe  
           180                  185                  190  
 Ala Cys Leu Gly Thr Ala Leu Phe Val Gly Gly Leu Ala Gly Leu Arg  
           195                  200                  205  
 Thr His Ser Leu Ile Ala Gln Gly Ile Met Tyr Leu Tyr Leu Thr Tyr  
   210                  215                  220  
 Tyr Leu Ser Ser Ala Leu Glu Glu Arg Asn Glu Thr Val Lys Asp Gln  
 225                  230                  235                  240  
 Arg Asn Glu Ile Asn Thr Tyr Leu Thr Glu Glu Cys Arg Gln Gln Lys  
           245                  250                  255  
 Arg Glu Lys Ala Leu Leu Glu  
           260

<210> 270  
 <211> 135  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 270  
 Lys Gln Trp Ala Leu Ser Leu Met Ser Gln Cys Gln Ser Ser Ser Thr  
 1 5 10 15  
 Ser Thr Trp Glu Trp Met Lys Ser Phe Val Pro Asn Trp Lys Asn Pro  
 20 25 30  
 Thr Pro Pro Leu Ser Pro Ile Pro Ser Glu Asp Glu Phe Ile Leu Ala  
 35 40 45  
 Tyr Glu Pro Phe Val Leu Pro Lys Thr Asp Pro Glu Asn Ala Gln Ala  
 50 55 60  
 Asn Pro Pro Gly Thr Ser Thr Pro Asn Val Glu Asn Gly Ile Asp Asp  
 65 70 75 80  
 Leu Asn Pro Leu Leu Gly Gln Pro Asn Glu Gln Asn Asn Ala Asn Asn  
 85 90 95  
 Pro Gly Thr Ser Gly Ser Asn Pro Thr Ser Leu Pro Ala Pro Glu Arg  
 100 105 110  
 Leu Pro Glu Thr Glu Glu Asn Ser Gln Glu Glu Glu Gln Gly Ser Gln  
 115 120 125  
 Asn Asn Glu Asp Leu Ile Gly  
 130 135

<210> 271  
 <211> 331  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 271  
 Val Ala Phe Arg Cys Val Met Thr Ile Asp Met His Cys Asp Leu Leu  
 1 5 10 15  
 Ser His Pro His Phe Cys Arg Lys Asp Pro Ala Val Arg Cys Ser Pro  
 20 25 30  
 Glu Gln Leu Leu Ser Gly Gly Val Arg Gln Gln Val Cys Ala Ile Phe  
 35 40 45  
 Val Pro His Ser Arg Gly Glu Pro Asn Cys Asp Lys Gln Asn Ser Leu  
 50 55 60  
 Phe Phe Ser Leu Pro Asn Gln Tyr Pro Asp Ile Gly Leu Leu Ser Tyr  
 65 70 75 80  
 Glu Glu Glu Glu Asn Gly Ser Ser Ser Gln Lys Lys Ser Leu Ser Leu  
 85 90 95  
 Ile Arg Ser Ile Glu Asn Ala Ser Ala Leu Gly Asp Asp Thr Ala Pro  
 100 105 110  
 Leu Gly Thr Leu Leu Ala Lys Leu Ile His Leu Thr Lys Gln Gly Pro  
 115 120 125  
 Leu Ala Tyr Leu Gly Ile Val Trp Lys Gly Asp Asn Arg Phe Gly Gly  
 130 135 140  
 Gly Thr Glu Ala Pro Lys Arg Leu Ser Asn Asp Gly Lys Val Leu Leu  
 145 150 155 160  
 Asp Ile Met Tyr Glu Leu Gly Val Pro Ile Asp Leu Ser His Cys Ser  
 165 170 175  
 Asp Lys Leu Ala Glu Asp Ile Leu Asp Tyr Thr Ala Asp Lys Leu Pro  
 180 185 190  
 Asn Leu Ala Val Ile Ala Ser His Ser Asn Phe Arg Ser Val Leu Asp  
 195 200 205  
 His Arg Arg Asn Leu Val Asp Ala His Ala Lys Glu Ile Val Arg Arg  
 210 215 220  
 Lys Gly Val Ile Gly Leu Asn Leu Val Arg Ser Tyr Val Gly Asp Ser  
 225 230 235 240





<210> 273  
 <211> 245  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 273  
 Lys Leu Met Thr Asp Tyr Ser Phe Phe Arg Arg Lys Ile Gly Asn Ile  
 1 5 10 15  
 Glu Ala Ile Glu Cys Pro Gly Asn Pro Gln Asp Pro Ile Ile Ile Leu  
 20 25 30  
 Cys His Gly Tyr Gly Ser Leu Ala Asp Asn Leu Thr Phe Phe Pro Ser  
 35 40 45  
 Ile Cys Ser Phe Ser Lys Leu Arg Pro Thr Trp Ile Phe Pro Asn Gly  
 50 55 60  
 Ile Leu Pro Leu Glu Asn Asp Phe Arg Gly Ser Arg Ala Cys Phe Pro  
 65 70 75 80  
 Leu Asn Val Leu Leu Leu Gln Glu Leu Ser Arg Leu Tyr Ala Asn Gly  
 85 90 95  
 Val Gly Asn Leu Gln Glu Lys Tyr Asp Glu Leu Phe Asp Val Asp Leu  
 100 105 110  
 Glu Thr Pro Lys Glu Ala Leu Glu Glu Leu Ile Leu Asn Leu Asn Arg  
 115 120 125  
 Pro Tyr Asn Glu Ile Ile Ile Gly Gly Phe Ser Gln Gly Ala Ile Leu  
 130 135 140  
 Ala Thr His Leu Val Leu Thr Ser Gln Asn Pro Tyr Ala Gly Ala Leu  
 145 150 155 160  
 Ile Phe Ala Gly Ala Arg Leu Phe Asn Gln Gly Trp Glu Glu Gly Leu  
 165 170 175  
 Lys Gln Cys Ala Gln Val Pro Phe Leu Gln Ser His Gly Tyr Glu Asp  
 180 185 190  
 Glu Ile Leu Pro Tyr His Leu Gly Ala His Leu Asn Asp Leu Leu Leu  
 195 200 205  
 Thr Lys Leu Asn Gly Gln Phe Val Ser Phe His Gly Gly His Glu Ile  
 210 215 220  
 Pro Ser Val Val Phe Gln Lys Met Gln Val Thr Val Pro Asn Trp Ile  
 225 230 235 240  
 Asp Pro Ala Arg Gly  
 245

<210> 274  
 <211> 311  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 274  
 Phe Asn Arg Gln Ser Asp Ala Thr Tyr Ala Thr Trp Val Met His Leu  
 1 5 10 15  
 Glu Glu Glu Asn Gln Gly Trp Glu Ala Leu Leu Arg Lys Val Tyr His  
 20 25 30  
 Gln Glu Val Pro Pro Ala Ile Leu Leu His Gly Phe Thr Leu Pro Val  
 35 40 45  
 Leu Gln Asp Lys Ala Glu Gln Leu Ala Ser Glu Ile Leu Leu Ser Ser  
 50 55 60  
 Ser Pro Gly Ser Glu His Lys Val Ser Gln Lys Ile His Pro Asp Ile  
 65 70 75 80  
 Tyr Gln Phe Phe Pro Glu Gly Lys Gly Arg Leu His Ser Ile Asp Leu  
 85 90 95  
 Pro Arg Gly Ile Lys Lys Gln Ile Tyr Ile Ser Pro Phe Glu Ala Asn  
 100 105 110  
 Tyr Lys Ile Tyr Ile Ile His Glu Ala Asp Arg Met Thr Leu Ala Ala  
 115 120 125

Ile Ser Ala Phe Leu Lys Val Phe Glu Glu Pro Pro Lys His Ala Val  
 130 135 140  
 Ile Ile Leu Thr Thr Ala Lys Val Gln Arg Leu Pro Lys Thr Ile Ile  
 145 150 155 160  
 Ser Arg Ser Leu Ser Ile Phe Ile Glu Arg Gly Glu Lys Ile Leu Cys  
 165 170 175  
 Ser Lys Glu Thr Phe Ser Tyr Leu Phe Arg Tyr Ala Gln Cys Glu Ile  
 180 185 190  
 Pro Val Thr Glu Val Ser Gln Ile Ile Lys Glu Ser Ser Glu Thr Asp  
 195 200 205  
 Lys Gln Val Leu Arg Asp Lys Val Gln Arg Phe Met Glu Val Leu Leu  
 210 215 220  
 Glu Leu Tyr Arg Asp Arg Tyr Thr Leu Asn Leu Gly Leu Lys Ala Ser  
 225 230 235 240  
 Ala Leu Asn Tyr Pro Glu His Val Lys Glu Ile Leu Gln Leu Pro Leu  
 245 250 255  
 Leu Pro Leu Asp Lys Val Leu Leu Ile Val Glu Ser Ala Cys Arg Ser  
 260 265 270  
 Leu Asn Asn Ser Ser Ser Ala Ala Ser Val Leu Glu Trp Val Ala Ile  
 275 280 285  
 Gln Leu Val Ser Leu Gln Tyr Lys Glu Lys Glu Leu Val Ser Val Ser  
 290 295 300  
 Pro Gly Gln Asp Leu Ser Asn  
 305 310

<210> 275

<211> 209

<212> PRT

<213> Chlamydia pneumoniae

<400> 275

Gly Ser Ile Val Phe Ile Val Ile Glu Gly Gly Glu Gly Ser Gly Lys  
 1 5 10 15  
 Ser Ser Leu Ala Lys Ala Leu Gly Asp Gln Leu Val Ala Gln Asp Arg  
 20 25 30  
 Lys Val Leu Leu Thr Arg Glu Pro Gly Gly Cys Leu Ile Gly Glu Arg  
 35 40 45  
 Leu Arg Asp Leu Ile Leu Glu Pro Pro His Leu Glu Leu Ser Arg Cys  
 50 55 60  
 Cys Glu Leu Phe Leu Phe Leu Gly Ser Arg Ala Gln His Ile Gln Glu  
 65 70 75 80  
 Val Ile Ile Pro Ala Leu Arg Asp Gly Tyr Ile Val Ile Cys Glu Arg  
 85 90 95  
 Phe His Asp Ser Thr Ile Val Tyr Gln Gly Ile Ala Glu Gly Leu Gly  
 100 105 110  
 Ala Asp Phe Val Ala Asp Leu Cys Ser Lys Val Val Gly Pro Thr Pro  
 115 120 125  
 Phe Leu Pro Asn Phe Val Leu Leu Leu Asp Ile Pro Ala Asp Ile Gly  
 130 135 140  
 Leu Gln Arg Lys His Arg Gln Lys Val Phe Asp Lys Phe Glu Lys Lys  
 145 150 155 160  
 Pro Leu Ser Tyr His Asn Arg Ile Arg Glu Gly Phe Leu Ser Leu Ala  
 165 170 175  
 Ser Ala Asp Pro Ser Arg Tyr Leu Val Leu Asp Ala Arg Glu Ser Leu  
 180 185 190  
 Ala Ser Leu Ile Asp Lys Val Met Leu His Thr Gln Leu Gly Leu Cys  
 195 200 205  
 Thr

<210> 276  
 <211> 839  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 276  
 Glu Ser Thr Ile Pro Met Phe Asn Lys Asp Glu Ile Ile Val Pro Lys  
 1 5 10 15  
 Asn Leu Glu Glu Glu Met Lys Glu Ser Tyr Leu Arg Tyr Ser Met Ser  
 20 25 30  
 Val Ile Ile Ser Arg Ala Leu Pro Asp Ile Arg Asp Gly Leu Lys Pro  
 35 40 45  
 Ser Gln Arg Arg Val Leu Tyr Ala Met Lys Gln Leu Ser Leu Ser Pro  
 50 55 60  
 Gly Ala Lys His Arg Lys Cys Ala Lys Ile Cys Gly Asp Thr Ser Gly  
 65 70 75 80  
 Asp Tyr His Pro His Gly Glu Ser Val Ile Tyr Pro Thr Leu Val Arg  
 85 90 95  
 Met Ala Gln Asn Trp Ala Met Arg Tyr Pro Leu Val Asp Gly Gln Gly  
 100 105 110  
 Asn Phe Gly Ser Ile Asp Gly Asp Pro Pro Ala Ala Met Arg Tyr Thr  
 115 120 125  
 Glu Ala Arg Leu Thr His Ser Ala Met Tyr Leu Met Glu Asp Leu Asp  
 130 135 140  
 Lys Asp Thr Val Asp Ile Val Pro Asn Tyr Asp Glu Thr Lys His Glu  
 145 150 155 160  
 Pro Val Val Phe Pro Ser Lys Phe Pro Asn Leu Leu Cys Asn Gly Ser  
 165 170 175  
 Ser Gly Ile Ala Val Gly Met Ala Thr Asn Ile Pro Pro His Asn Leu  
 180 185 190  
 Gly Glu Leu Ile Glu Ala Thr Leu Leu Leu Leu Ala Asn Pro Gln Ala  
 195 200 205  
 Ser Val Asp Glu Ile Leu Gln Val Met Pro Gly Pro Asp Phe Pro Thr  
 210 215 220  
 Gly Gly Ile Ile Cys Gly Ser Glu Gly Ile Arg Ser Ala Tyr Thr Thr  
 225 230 235 240  
 Gly Arg Gly Lys Ile Lys Val Arg Ala Arg Leu His Val Glu Glu Asn  
 245 250 255  
 Glu Asp Lys His Arg Glu Ser Ile Ile Ile Thr Glu Met Pro Tyr Asn  
 260 265 270  
 Val Asn Lys Ser Arg Leu Ile Glu Gln Ile Ala Asn Leu Val Asn Glu  
 275 280 285  
 Lys Thr Leu Ala Gly Ile Ser Asp Val Arg Asp Glu Ser Asp Lys Asp  
 290 295 300  
 Gly Ile Arg Val Val Leu Glu Ile Lys Lys Gly Glu Ser Ser Glu Ile  
 305 310 315 320  
 Ile Ile Asn Arg Leu Tyr Lys Phe Thr Asp Val Gln Val Thr Phe Gly  
 325 330 335  
 Ala Asn Met Leu Ala Leu Asp Lys Asn Leu Pro Arg Thr Met Ser Ile  
 340 345 350  
 His Arg Met Ile Ser Ala Trp Ile Arg His Arg Lys Glu Val Ile Arg  
 355 360 365  
 Arg Arg Thr Arg Tyr Glu Leu Asn Lys Ala Glu Thr Arg Ala His Val  
 370 375 380  
 Leu Glu Gly Tyr Leu Lys Ala Leu Ser Cys Leu Asp Ala Leu Val Lys  
 385 390 395 400  
 Thr Ile Arg Glu Ser Gly Asn Lys Glu His Ala Lys Glu Arg Ile Ile  
 405 410 415  
 Glu Ser Phe Gly Phe Thr Glu Pro Gln Ala Leu Ala Ile Leu Glu Leu  
 420 425 430

Arg Leu Tyr Gln Leu Thr Gly Leu Glu Ala Glu Lys Ile Gln Lys Glu  
 435 440 445  
 Tyr Glu Glu Leu Leu Asn Lys Ile Ala Tyr Tyr Lys Gln Val Leu Ser  
 450 455 460  
 Asp Glu Gly Leu Val Lys Asp Ile Ile Arg Asn Glu Leu Gln Asp Leu  
 465 470 475 480  
 Leu Lys His His Lys Val Ala Arg Arg Thr Thr Ile Glu Phe Asp Ala  
 485 490 495  
 Asp Asp Ile Arg Asp Ile Glu Asp Ile Ile Thr Asn Glu Ser Val Ile  
 500 505 510  
 Ile Thr Ile Ser Gly Asp Asp Tyr Val Lys Arg Met Pro Val Lys Val  
 515 520 525  
 Phe Lys Glu Gln Arg Arg Gly Gly His Gly Val Thr Gly Phe Asp Met  
 530 535 540  
 Lys Lys Gly Ala Gly Phe Leu Lys Ala Val Tyr Ser Ala Phe Thr Lys  
 545 550 555 560  
 Asp Tyr Leu Leu Ile Phe Thr Asn Phe Gly Gln Cys Tyr Trp Leu Lys  
 565 570 575  
 Val Trp Gln Leu Pro Glu Gly Glu Arg Arg Ala Lys Gly Lys Pro Ile  
 580 585 590  
 Ile Asn Phe Leu Glu Gly Ile Arg Pro Gly Glu Glu Leu Ala Ala Ile  
 595 600 605  
 Leu Asn Ile Lys Asn Phe Asp Asn Ala Gly Phe Leu Phe Leu Ala Thr  
 610 615 620  
 Lys Arg Gly Val Val Lys Lys Val Ser Leu Asp Ala Phe Ser Asn Pro  
 625 630 635 640  
 Arg Lys Lys Gly Ile Arg Ala Leu Glu Ile Asp Glu Gly Asp Glu Leu  
 645 650 655  
 Ile Ala Ala Cys His Ile Val Ser Asp Glu Glu Lys Val Met Leu Phe  
 660 665 670  
 Thr His Leu Gly Met Ala Val Arg Phe Pro His Glu Lys Val Arg Pro  
 675 680 685  
 Met Gly Arg Thr Ala Arg Gly Val Arg Gly Val Ser Leu Lys Asn Glu  
 690 695 700  
 Glu Asp Lys Val Val Ser Cys Gln Ile Val Thr Glu Asn Gln Ser Val  
 705 710 715 720  
 Leu Ile Val Cys Asp Gln Gly Phe Gly Lys Arg Ser Leu Val Glu Asp  
 725 730 735  
 Phe Arg Glu Thr Asn Arg Gly Gly Val Gly Val Arg Ser Ile Leu Ile  
 740 745 750  
 Asn Glu Arg Asn Gly Asn Val Leu Gly Ala Ile Pro Val Thr Asp His  
 755 760 765  
 Asp Ser Ile Leu Leu Met Ser Ser Gln Gly Gln Ala Ile Arg Ile Asn  
 770 775 780  
 Met Gln Asp Val Arg Val Met Gly Arg Ser Thr Gln Gly Val Arg Leu  
 785 790 795 800  
 Val His Leu Lys Glu Gly Asp Ala Leu Val Ser Met Glu Lys Leu Ser  
 805 810 815  
 Ser Asn Glu Asn Asp Asp Glu Val Leu Ser Gly Ser Glu Glu Glu Cys  
 820 825 830  
 Ser Asp Thr Val Ser Leu Arg  
 835

<210> 277

<211> 806

<212> PRT

<213> Chlamydia pneumoniae

<400> 277

Phe Met Asp Pro Lys Glu Lys Asn Tyr Asp Ala Ser Ala Ile Thr Val  
 1 5 10 15

Leu	Glu	Gly	Leu	Gln	Ala	Val	Arg	Glu	Arg	Pro	Gly	Met	Tyr	Ile	Gly
		20						25					30		
Asp	Thr	Gly	Ile	Thr	Gly	Leu	His	Leu	Val	Tyr	Glu	Val	Val	Asp	
		35					40					45			
Asn	Ser	Ile	Asp	Glu	Ala	Met	Ala	Gly	Tyr	Cys	Ser	Arg	Ile	Asp	Val
		50				55					60				
Arg	Ile	Leu	Glu	Asp	Gly	Gly	Ile	Val	Ile	Val	Asp	Asn	Gly	Arg	Gly
65					70					75					80
Ile	Pro	Ile	Glu	Val	His	Glu	Arg	Glu	Ser	Ala	Lys	Gln	Gly	Arg	Glu
				85					90					95	
Val	Ser	Ala	Leu	Glu	Val	Val	Leu	Thr	Val	Leu	His	Ala	Gly	Gly	Lys
			100					105					110		
Phe	Asp	Lys	Asp	Ser	Tyr	Lys	Val	Ser	Gly	Gly	Leu	His	Gly	Val	Gly
		115					120					125			
Val	Ser	Cys	Val	Asn	Ala	Leu	Ser	Glu	Lys	Leu	Val	Ala	Thr	Val	Phe
		130				135					140				
Lys	Asp	Lys	Lys	Cys	Tyr	Gln	Met	Glu	Phe	Ser	Arg	Gly	Ile	Pro	Val
145					150					155					160
Thr	Pro	Leu	Gln	Tyr	Val	Ser	Val	Ser	Asp	Arg	Gln	Gly	Thr	Glu	Ile
			165						170					175	
Val	Phe	Tyr	Pro	Asp	Pro	Lys	Ile	Phe	Ser	Thr	Cys	Thr	Phe	Asp	Arg
			180					185					190		
Ser	Ile	Leu	Met	Lys	Arg	Leu	Arg	Glu	Leu	Ala	Phe	Leu	Asn	Arg	Gly
		195					200					205			
Ile	Thr	Ile	Val	Phe	Glu	Asp	Asp	Arg	Asp	Val	Ser	Phe	Asp	Lys	Val
		210				215					220				
Thr	Phe	Phe	Tyr	Glu	Gly	Gly	Ile	Gln	Ser	Phe	Val	Ser	Tyr	Leu	Asn
225					230					235					240
Gln	Asn	Lys	Glu	Ser	Leu	Phe	Ser	Glu	Pro	Ile	Tyr	Ile	Cys	Gly	Thr
			245						250					255	
Arg	Val	Gly	Asp	Asp	Gly	Glu	Ile	Glu	Phe	Glu	Ala	Ala	Leu	Gln	Trp
			260					265					270		
Asn	Ser	Gly	Tyr	Ser	Glu	Leu	Val	Tyr	Ser	Tyr	Ala	Asn	Asn	Ile	Pro
		275					280					285			
Thr	Arg	Gln	Gly	Gly	Thr	His	Leu	Thr	Gly	Phe	Ser	Thr	Ala	Leu	Thr
		290				295					300				
Arg	Val	Ile	Asn	Thr	Tyr	Ile	Lys	Ala	His	Asn	Leu	Ala	Lys	Asn	Asn
305					310					315					320
Lys	Leu	Ala	Leu	Thr	Gly	Glu	Asp	Ile	Arg	Glu	Gly	Leu	Thr	Ala	Val
			325						330					335	
Ile	Ser	Val	Lys	Val	Pro	Asn	Pro	Gln	Phe	Glu	Gly	Gln	Thr	Lys	Gln
			340					345					350		
Lys	Leu	Gly	Asn	Ser	Asp	Val	Ser	Ser	Val	Ala	Gln	Gln	Val	Val	Gly
		355					360					365			
Glu	Ala	Leu	Thr	Ile	Phe	Phe	Glu	Glu	Asn	Pro	Gln	Ile	Ala	Arg	Met
		370				375					380				
Ile	Val	Asp	Lys	Val	Phe	Val	Ala	Ala	Gln	Ala	Arg	Glu	Ala	Ala	Lys
385					390					395					400
Lys	Ala	Arg	Glu	Leu	Thr	Leu	Arg	Lys	Ser	Ala	Leu	Asp	Ser	Ala	Arg
			405						410					415	
Leu	Pro	Gly	Lys	Leu	Ile	Asp	Cys	Leu	Glu	Lys	Asp	Pro	Glu	Lys	Cys
			420					425					430		
Glu	Met	Tyr	Ile	Val	Glu	Gly	Asp	Ser	Ala	Gly	Gly	Ser	Ala	Lys	Gln
		435					440					445			
Gly	Arg	Asp	Arg	Arg	Phe	Gln	Ala	Ile	Leu	Pro	Ile	Arg	Gly	Lys	Ile
		450				455					460				
Leu	Asn	Val	Glu	Lys	Ala	Arg	Leu	Gln	Lys	Ile	Phe	Gln	Asn	Gln	Glu
465					470					475					480
Ile	Gly	Thr	Ile	Ile	Ala	Ala	Leu	Gly	Cys	Gly	Ile	Gly	Ala	Asp	Asn
				485					490					495	

Phe	Asn	Leu	Ser	Lys	Leu	Arg	Tyr	Arg	Arg	Ile	Ile	Ile	Met	Thr	Asp		
			500					505					510				
Ala	Asp	Val	Asp	Gly	Ser	His	Ile	Arg	Thr	Leu	Leu	Leu	Thr	Phe	Phe		
		515					520					525					
Tyr	Arg	His	Met	Thr	Ala	Leu	Ile	Glu	Asn	Glu	Cys	Val	Tyr	Ile	Ala		
	530					535					540						
Gln	Pro	Pro	Leu	Tyr	Lys	Val	Ser	Lys	Lys	Lys	Asp	Phe	Arg	Tyr	Ile		
545					550					555					560		
Leu	Ser	Glu	Lys	Glu	Met	Asp	Ser	Tyr	Leu	Leu	Met	Leu	Gly	Thr	Asn		
			565						570					575			
Glu	Ser	Ser	Ile	Leu	Phe	Lys	Ser	Thr	Glu	Arg	Glu	Leu	Arg	Gly	Glu		
			580					585						590			
Ala	Leu	Glu	Ser	Phe	Ile	Asn	Val	Ile	Leu	Asp	Val	Glu	Ser	Phe	Ile		
		595					600					605					
Asn	Thr	Leu	Glu	Lys	Lys	Ala	Ile	Pro	Phe	Ser	Glu	Phe	Leu	Glu	Met		
	610					615					620						
Tyr	Lys	Glu	Gly	Ile	Gly	Tyr	Pro	Leu	Tyr	Tyr	Leu	Ala	Pro	Ala	Thr		
625					630					635					640		
Gly	Met	Gln	Gly	Gly	Arg	Tyr	Leu	Tyr	Ser	Asp	Glu	Glu	Lys	Glu	Glu		
				645					650					655			
Ala	Leu	Ala	Gln	Glu	Glu	Thr	His	Lys	Phe	Lys	Ile	Ile	Glu	Leu	Tyr		
			660					665					670				
Lys	Val	Ala	Val	Phe	Val	Asp	Ile	Gln	Asn	Gln	Leu	Lys	Glu	Tyr	Gly		
		675					680					685					
Leu	Asp	Ile	Ser	Ser	Tyr	Leu	Ile	Pro	Gln	Lys	Asn	Glu	Ile	Val	Ile		
	690					695					700						
Gly	Asn	Glu	Asp	Ser	Pro	Ser	Cys	Asn	Tyr	Ser	Cys	Tyr	Thr	Leu	Glu		
705					710					715					720		
Glu	Val	Ile	Asn	Tyr	Leu	Lys	Asn	Leu	Gly	Arg	Lys	Gly	Ile	Glu	Ile		
			725						730					735			
Gln	Arg	Tyr	Lys	Gly	Leu	Gly	Glu	Met	Asn	Ala	Asp	Gln	Leu	Trp	Asp		
			740					745					750				
Thr	Thr	Met	Asn	Pro	Glu	Gln	Arg	Thr	Leu	Ile	His	Val	Ser	Leu	Lys		
		755					760					765					
Asp	Ala	Val	Glu	Ala	Asp	His	Ile	Phe	Thr	Met	Leu	Met	Gly	Glu	Glu		
	770					775					780						
Val	Pro	Pro	Arg	Arg	Glu	Phe	Ile	Glu	Ser	His	Ala	Leu	Ser	Ile	Arg		
785					790					795					800		
Ile	Asn	Asn	Leu	Asp	Ile												
				805													

<210> 278

<211> 116

<212> PRT

<213> Chlamydia pneumoniae

<400> 278

Asp	Met	Phe	Leu	Lys	Arg	Lys	Lys	Arg	Gly	Gly	Ser	Gln	Val	Gln	Asn		
1				5					10					15			
Lys	Arg	Thr	Ala	Ser	Pro	Ile	Lys	His	Ala	Lys	His	Tyr	Leu	His	Asn		
			20					25					30				
Tyr	Leu	Gln	Glu	Leu	Gln	Lys	Ile	Met	Ala	Ala	Arg	Pro	His	Asp	Ala		
		35					40					45					
Ile	Asp	Ala	Trp	Asn	Gln	Val	Phe	Arg	Asp	Lys	Tyr	Lys	Gly	Met	Ser		
	50				55					60							
Gln	Ala	Ile	Gly	Phe	Arg	Asp	His	Ile	Leu	Leu	Val	Lys	Val	Tyr	Asn		
65					70					75					80		
Ser	Ser	Leu	Tyr	Ala	Leu	Leu	Lys	Gln	Thr	Pro	Gln	Asn	Asp	Leu	Ile		
				85					90					95			
Met	Ser	Leu	Tyr	Gln	Val	Ala	Ser	His	Val	Gln	Ile	Arg	Glu	Ile	Gln		
				100					105					110			

Phe Leu Leu Gly  
115

<210> 279  
<211> 200  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 279  
Asn Ile Ser Ile Phe Tyr Pro Lys Tyr Phe Ile Glu Gly Lys Glu Val  
1 5 10 15  
Leu Ile Lys Asn Leu Pro Pro Leu Ile Phe Tyr Gly Val Ile Leu Met  
20 25 30  
Ile Ile Asn Val Arg Ala Pro Ala Phe Gly Ile Thr Ser Val Gln Gln  
35 40 45  
Phe Ser Thr Asn Phe Gln Ala Ala Ile Pro Ile Leu Asn Ile Val Ile  
50 55 60  
Gly Cys Ser Arg Ile Ser Ser Thr Tyr Ala Glu Asp Ile Glu Glu Val  
65 70 75 80  
Ala Gln Glu Lys Leu Glu Lys Ser Thr His Ser Lys Ser Ser Thr Ser  
85 90 95  
Val Asn Leu Trp Ala His Arg Val Arg Gly Val Val Glu Ile Leu Gly  
100 105 110  
Gly Gly Ile Val Ile Leu Ala Leu Glu Ile Thr Ala Leu Val Leu Gln  
115 120 125  
Val Ile Ile Lys Leu Ile Lys Cys Leu Ile Asp Val Leu Cys Val Cys  
130 135 140  
Leu Phe Gly Leu Gly Val Cys Val Val Ala Ile Ile Gly Ala Ile Ala  
145 150 155 160  
Phe Cys Val Val Val Val Val Lys Tyr Leu Gly Phe Cys Ser Gln Gly  
165 170 175  
Glu Glu Leu Glu Pro Ile Glu Val Lys Thr Leu Ile Ser Pro Asp Lys  
180 185 190  
Pro Tyr Pro Thr Val Val Tyr Val  
195 200

<210> 280  
<211> 275  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 280  
Arg Asp Ser Met Lys Lys Lys Leu Ser Leu Leu Val Gly Leu Ile Phe  
1 5 10 15  
Val Leu Ser Ser Cys His Lys Glu Asp Ala Gln Asn Lys Ile Arg Ile  
20 25 30  
Val Ala Ser Pro Thr Pro His Ala Glu Leu Leu Glu Ser Leu Gln Glu  
35 40 45  
Glu Ala Lys Asp Leu Gly Ile Lys Leu Lys Ile Leu Pro Val Asp Asp  
50 55 60  
Tyr Arg Ile Pro Asn Arg Leu Leu Leu Asp Lys Gln Val Asp Ala Asn  
65 70 75 80  
Tyr Phe Gln His Gln Ala Phe Leu Asp Asp Glu Cys Glu Arg Tyr Asp  
85 90 95  
Cys Lys Gly Glu Leu Val Val Ile Ala Lys Val His Leu Glu Pro Gln  
100 105 110  
Ala Ile Tyr Ser Lys Lys His Ser Ser Leu Glu Arg Leu Lys Ser Gln  
115 120 125  
Lys Lys Leu Thr Ile Ala Ile Pro Val Asp Arg Thr Asn Ala Gln Arg  
130 135 140

Ala Leu His Leu Leu Glu Glu Cys Gly Leu Ile Val Cys Lys Gly Pro  
 145 150 155 160  
 Ala Asn Leu Asn Met Thr Ala Lys Asp Val Cys Gly Lys Glu Asn Arg  
 165 170 175  
 Ser Ile Asn Ile Leu Glu Val Ser Ala Pro Leu Leu Val Gly Ser Leu  
 180 185 190  
 Pro Asp Val Asp Ala Ala Val Ile Pro Gly Asn Phe Ala Ile Ala Ala  
 195 200 205  
 Asn Leu Ser Pro Lys Lys Asp Ser Leu Cys Leu Glu Asp Leu Ser Val  
 210 215 220  
 Ser Lys Tyr Thr Asn Leu Val Val Ile Arg Ser Glu Asp Val Gly Ser  
 225 230 235 240  
 Pro Lys Met Ile Lys Leu Gln Lys Leu Phe Gln Ser Pro Ser Val Gln  
 245 250 255  
 His Phe Phe Asp Thr Lys Tyr His Gly Asn Ile Leu Thr Met Thr Gln  
 260 265 270  
 Asp Asn Gly  
 275

<210> 281  
 <211> 224  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 281  
 Lys Lys Ile Met Gln Ser Asp Leu Ile Gln Ile Leu Leu Lys Glu Thr  
 1 5 10 15  
 Val Asn Thr Leu Tyr Met Val Ser Thr Ala Phe Phe Phe Ser Cys Ala  
 20 25 30  
 Ile Gly Gly Met Leu Gly Leu Gly Leu Phe Cys Thr Ser Pro Lys Ser  
 35 40 45  
 Leu Asn Pro Lys Lys Ser Leu Tyr Ala Thr Ile Ser Met Ile Leu Ser  
 50 55 60  
 Phe Leu Thr Ala Ile Pro Phe Ala Ile Leu Ile Val Ile Leu Phe Pro  
 65 70 75 80  
 Ile Thr Arg Trp Ile Val Gly Thr Ser Leu Gly Pro Thr Ala Ser Ile  
 85 90 95  
 Val Pro Leu Thr Ile Gly Ala Ile Pro Phe Val Val Thr Ile Val Val  
 100 105 110  
 Asp Ala Phe Arg Asn Ser Ala Leu Asn Tyr Leu Glu Ser Ala Val Ala  
 115 120 125  
 Leu Gly Ile Pro Lys Arg Asn Ile Leu Phe Gly Ile Leu Leu Pro Glu  
 130 135 140  
 Ser Tyr Pro Gln Leu Ile Phe Ser Leu Lys Ser Leu Val Val His Leu  
 145 150 155 160  
 Ile Ser Cys Ser Thr Leu Ala Gly Phe Val Gly Gly Gly Gly Leu Gly  
 165 170 175  
 Gln Leu Leu Leu Gln Tyr Gly Tyr Tyr Arg Phe Glu Trp Ser Val Thr  
 180 185 190  
 Thr Ser Val Leu Val Ile Thr Leu Val Leu Ile Glu Ser Val Arg Ile  
 195 200 205  
 Leu Gly Asp Phe Trp Gly Arg Arg Val Leu Lys Tyr Arg Gly Ile Leu  
 210 215 220

<210> 282  
 <211> 348  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 282

Ile	Lys	Gly	Glu	Ala	Trp	Leu	Val	Ser	Glu	Gln	His	Ser	Pro	Ile	Ile
1				5					10					15	
Ser	Val	Gln	Asp	Val	Ser	Lys	Lys	Leu	Gly	Asp	His	Ile	Leu	Leu	Ser
		20						25					30		
Lys	Val	Ser	Phe	Ser	Val	Tyr	Pro	Gly	Glu	Val	Phe	Gly	Ile	Val	Gly
		35					40					45			
His	Ser	Gly	Ser	Gly	Lys	Thr	Thr	Leu	Leu	Arg	Cys	Leu	Asp	Phe	Leu
	50					55					60				
Asp	Met	Pro	Thr	Ser	Gly	Ser	Ile	Ser	Val	Ala	Gly	Phe	Asp	Asn	Ser
65					70					75					80
Leu	Pro	Thr	Gln	Lys	Phe	Ser	Arg	Arg	Asn	Phe	Ser	Lys	Lys	Val	Ala
			85						90					95	
Tyr	Ile	Ser	Gln	Asn	Tyr	Gly	Leu	Phe	Ser	Ser	Lys	Thr	Val	Phe	Glu
			100					105					110		
Asn	Ile	Ala	Tyr	Pro	Leu	Arg	Ile	His	His	Ser	Glu	Met	Ser	Lys	Ser
		115					120					125			
Glu	Val	Glu	Glu	Gln	Val	Tyr	Asp	Thr	Leu	Asn	Phe	Leu	Asn	Leu	Tyr
	130					135					140				
His	Arg	His	Asp	Ala	Tyr	Pro	Gly	Asn	Leu	Ser	Gly	Gly	Gln	Lys	Gln
145					150					155					160
Lys	Val	Ala	Ile	Ala	Arg	Ala	Ile	Val	Cys	Gln	Pro	Glu	Val	Val	Leu
			165						170					175	
Cys	Asp	Glu	Ile	Thr	Ser	Ala	Leu	Asp	Pro	Lys	Ser	Thr	Glu	Asn	Ile
		180						185					190		
Ile	Glu	Arg	Leu	Leu	Gln	Leu	Asn	Gln	Glu	Arg	Gly	Ile	Thr	Leu	Val
	195						200					205			
Leu	Val	Ser	His	Glu	Ile	Asp	Val	Val	Lys	Lys	Ile	Cys	Ser	His	Val
	210				215						220				
Leu	Val	Met	His	Gln	Gly	Ala	Val	Glu	Glu	Leu	Gly	Thr	Thr	Glu	Glu
225				230						235					240
Leu	Phe	Leu	Asn	Ser	Glu	Asn	Ser	Ile	Thr	Asn	Glu	Leu	Phe	His	Glu
			245						250					255	
Asp	Ile	Asn	Ile	Ala	Ala	Leu	Ser	Ser	Cys	Tyr	Phe	Ala	Glu	Asp	Arg
		260						265					270		
Glu	Glu	Val	Leu	Arg	Leu	Asn	Phe	Ser	Lys	Glu	Leu	Ala	Ile	Gln	Gly
		275					280					285			
Ile	Ile	Ser	Lys	Val	Ile	Gln	Thr	Gly	Leu	Val	Ser	Ile	Asn	Ile	Leu
	290					295					300				
Ser	Gly	Asn	Ile	Asn	Leu	Phe	Arg	Lys	Ser	Pro	Met	Gly	Phe	Leu	Ile
305				310						315					320
Ile	Val	Leu	Glu	Gly	Glu	Val	Glu	Gln	Arg	Lys	Lys	Ala	Lys	Glu	Leu
			325					330						335	
Leu	Ile	Glu	Leu	Gly	Val	Val	Ile	Lys	Glu	Phe	Tyr				
		340						345							

<210> 283

<211> 357

<212> PRT

<213> Chlamydia pneumoniae

<400> 283

Ile	Ser	Leu	Arg	Arg	His	Thr	Leu	Met	Leu	Asn	Ile	His	Asp	Ile	Leu
1				5					10					15	
Gly	Asn	Asp	Asp	Glu	Asn	Leu	Leu	Ser	Tyr	Gln	Cys	Lys	His	Ile	Thr
		20						25					30		
Lys	Asp	Lys	Leu	Thr	Leu	Pro	Ser	His	Asp	Phe	Val	Asp	Lys	Val	Phe
		35					40					45			
Gly	Leu	Ser	Asp	Arg	Asn	Asn	Arg	Val	Leu	Arg	Ser	Leu	Gln	Thr	Met
	50						55				60				

Phe Ser His Gly Arg Leu Ala Asn Ser Gly Tyr Leu Ser Ile Leu Pro  
 65 70 75 80  
 Val Asp Gln Gly Ile Glu His Ser Ala Gly Ala Ser Phe Ala Ile Asn  
 85 90 95  
 Pro Ile Tyr Phe Asp Pro Glu Asn Ile Val Lys Leu Ala Ile Glu Ser  
 100 105 110  
 Gly Cys Ser Ala Val Ala Ser Thr Tyr Gly Thr Leu Ser Leu Leu Ser  
 115 120 125  
 Arg Lys Tyr Ala His Lys Ile Pro Phe Met Leu Lys Leu Asn His Asn  
 130 135 140  
 Glu Leu Leu Ser Tyr Pro Thr Lys Tyr His Gln Ile Phe Phe Thr Gln  
 145 150 155 160  
 Val Glu Ala Ala Tyr Ser Met Gly Ala Val Ala Val Gly Ala Thr Val  
 165 170 175  
 Tyr Phe Gly Ser Glu Thr Ser Asn Glu Glu Ile Val Ala Val Ser Asn  
 180 185 190  
 Ala Phe Ala Lys Ala Arg Ser Leu Gly Leu Ala Thr Val Leu Trp Cys  
 195 200 205  
 Tyr Leu Arg Asn Pro Ala Phe Val Ala Asn Gly Val Asp Tyr His Thr  
 210 215 220  
 Ala Ala Asp Leu Thr Gly Gln Ala Asp His Leu Gly Ala Thr Leu Gly  
 225 230 235 240  
 Ala Asp Ile Val Lys Gln Lys Leu Pro Thr Cys Gln Gly Gly Phe Lys  
 245 250 255  
 Ala Ile Asn Phe Gly Lys Thr Asp Glu Arg Val Tyr Ser Glu Leu Ser  
 260 265 270  
 Ser Asn His Pro Ile Asp Leu Cys Arg Tyr Gln Val Leu Asn Ser Tyr  
 275 280 285  
 Cys Gly Lys Val Gly Leu Ile Asn Ser Gly Gly Pro Ser Gly Lys Asn  
 290 295 300  
 Asp Phe Thr Glu Ala Ala Arg Thr Ala Val Ile Asn Lys Arg Ala Gly  
 305 310 315 320  
 Gly Met Gly Leu Ile Leu Gly Arg Lys Ala Phe Gln Arg Pro Leu Ser  
 325 330 335  
 Glu Gly Ile Gln Leu Leu Asn Leu Val Gln Asp Ile Tyr Leu Asp Pro  
 340 345 350  
 Asn Ile Thr Ile Ala  
 355

<210> 284

<211> 482

<212> PRT

<213> Chlamydia pneumoniae

<400> 284

Ile Leu Ile Leu Gln Ser Leu Asn Phe Ser Lys Lys Val Phe Met His  
 1 5 10 15  
 Ser His Ser Lys Pro Thr Lys Pro Leu Gly Thr Phe Thr Val Gly Met  
 20 25 30  
 Leu Ser Leu Ala Val Val Ile Ser Leu Arg Asn Leu Pro Leu Thr Ala  
 35 40 45  
 Lys His Gly Leu Ser Thr Leu Phe Phe Tyr Gly Leu Ala Val Ile Cys  
 50 55 60  
 Phe Met Ile Pro Tyr Ala Leu Ile Ser Ala Glu Leu Ala Ser Phe Lys  
 65 70 75 80  
 Pro Gln Gly Ile Tyr Ile Trp Ala Arg Asp Ala Leu Gly Lys Trp Trp  
 85 90 95  
 Gly Phe Phe Ala Ile Trp Met Gln Trp Phe His Asn Met Thr Trp Tyr  
 100 105 110  
 Pro Ala Val Leu Ala Phe Ile Ala Ser Thr Ile Val Tyr Lys Ile Asn  
 115 120 125

Pro Glu Leu Ala His Asn Lys Val Tyr Ile Ala Thr Val Ile Leu Ala  
 130 135 140  
 Gly Phe Trp Ile Leu Thr Phe Phe Asn Phe Leu Gly Ile Thr Ser Ser  
 145 150 155 160  
 Ala Leu Phe Ser Ser Ile Cys Val Ile Ile Gly Thr Leu Ile Pro Gly  
 165 170 175  
 Val Ile Leu Val Ser Leu Ala Leu Phe Trp Ile Phe Ser Gly Asn Pro  
 180 185 190  
 Ile Ala Ile Ser Leu Ser Trp Gly Asn Leu Leu Pro Asn Phe Ser Asn  
 195 200 205  
 Val Ser Ser Leu Val Leu Leu Ala Gly Met Leu Leu Ala Leu Cys Gly  
 210 215 220  
 Leu Glu Ala Asn Ala Asn Leu Ala Ser Asp Met Val Asn Pro Arg Lys  
 225 230 235 240  
 Asn Tyr Pro Lys Ala Val Phe Ile Gly Ala Ile Ala Thr Leu Thr Ile  
 245 250 255  
 Leu Val Leu Gly Ser Leu Ser Ile Ala Ile Val Ile Pro Lys Glu Glu  
 260 265 270  
 Ile Ser Leu Val Ser Gly Leu Val Lys Thr Phe Thr Leu Phe Phe Asp  
 275 280 285  
 Lys Tyr Asn Leu Ser Trp Met Thr Gly Ile Val Val Val Met Thr Ile  
 290 295 300  
 Ala Gly Ser Leu Gly Glu Leu Asn Ala Trp Met Phe Ala Gly Thr Lys  
 305 310 315 320  
 Gly Leu Phe Ile Ser Thr Gln Asn Asp Cys Leu Pro Arg Leu Phe Lys  
 325 330 335  
 Lys Val Asn Ser Lys Asn Val Pro Thr Asn Leu Met Leu Phe Gln Gly  
 340 345 350  
 Ile Val Val Thr Ile Phe Thr Leu Leu Phe Leu Cys Leu Asp Ser Ala  
 355 360 365  
 Asp Leu Val Tyr Trp Ile Leu Thr Ala Leu Ser Val Gln Met Tyr Leu  
 370 375 380  
 Ala Met Tyr Ile Cys Leu Phe Leu Ala Gly Pro Ile Leu Arg Ile Lys  
 385 390 395 400  
 Glu Pro Arg Ala Gln Arg Leu Tyr Ser Val Pro Gly Lys Phe Leu Gly  
 405 410 415  
 Ile Cys Thr Met Ser Ile Leu Gly Ile Leu Ser Cys Ala Phe Ala Leu  
 420 425 430  
 Trp Val Ser Phe Leu Pro Pro Arg Glu Leu Ala Gln Ile Ser Glu Gly  
 435 440 445  
 Ser Lys Ile Gly Tyr Thr Thr Phe Leu Leu Leu Ala Phe Ser Leu Asn  
 450 455 460  
 Cys Leu Ile Pro Phe Gly Ile Tyr Phe Thr His Lys Arg Leu Ser Lys  
 465 470 475 480  
 Lys Ser

<210> 285

<211> 350

<212> PRT

<213> Chlamydia pneumoniae

<400> 285

Gly Arg Arg Leu Ser Tyr Phe Gln Asp Leu Ile Lys Asn Ala Val Ala  
 1 5 10 15  
 Lys Ile Ile Ser Phe Arg Lys Ser Pro Pro Asn Pro Val Lys Leu Leu  
 20 25 30  
 Ile Lys Phe Ala Lys Lys Asp Leu Lys Asn Ser Ser Ile Ala Pro Leu  
 35 40 45  
 Tyr Glu Val Leu Leu Glu Ile Leu Glu Ala Pro Gly Glu Glu Ile Leu  
 50 55 60

Glu	Val	Leu	Phe	Ser	Leu	Asp	Pro	Met	Trp	Leu	Lys	Ser	Met	Leu	Asp
65					70					75					80
Pro	Lys	Lys	His	Ser	Thr	Leu	Gly	Ile	Glu	Ile	Ser	Ser	Glu	Thr	Ala
				85					90					95	
Glu	Thr	Ile	Glu	Ser	Cys	Ser	Leu	Gly	Leu	Ile	Ser	Ile	Asn	Leu	Leu
			100					105					110		
Leu	Ser	Gly	Leu	Cys	Leu	Arg	Ser	Ser	His	Asp	Arg	Ser	Gln	Ala	Val
		115					120					125			
Lys	Ile	Ile	Gln	Gln	Phe	Cys	Pro	Gln	Phe	Ser	Ser	Glu	Glu	Val	Gln
	130					135						140			
Asn	Phe	Val	Glu	Gln	Arg	Asn	Ile	Leu	Thr	Pro	Phe	Leu	His	His	Leu
145					150					155					160
Phe	Glu	Gly	Asp	Glu	Val	Ala	Leu	Leu	Asn	Gln	Leu	Ser	Leu	Arg	Leu
			165						170					175	
Asp	Leu	Ile	Val	Pro	Asn	Ala	Leu	Tyr	Pro	Glu	Pro	Asp	Pro	Ser	Cys
			180					185					190		
Trp	Gln	Ser	Ile	Asn	Ser	Glu	Asp	Cys	Ala	Lys	Asp	Ala	Glu	Asp	Gln
		195					200					205			
Gln	Glu	Asp	Phe	Asn	Lys	Thr	Lys	Glu	Ala	Cys	Lys	Glu	Gly	Leu	Lys
	210					215					220				
Lys	Leu	Val	Leu	Pro	Ala	Leu	Ser	Ile	Thr	Ser	Ile	Pro	Gln	Leu	Leu
225					230					235				240	
Arg	Ala	Arg	Arg	Phe	Lys	Gln	Gly	Ala	Glu	Ile	Leu	Met	Ala	Ile	Asp
			245						250					255	
Arg	Lys	Lys	Met	Lys	Gln	Asn	Pro	Phe	Ile	Phe	Leu	Glu	Ala	Leu	Leu
			260					265					270		
Glu	Ser	Glu	Glu	Phe	Ser	Ile	Ser	Val	Gly	Lys	Tyr	Leu	Lys	Leu	Leu
		275					280					285			
Met	Pro	Ile	His	Leu	Trp	Asp	Lys	Leu	Leu	His	Ala	Ile	Tyr	Leu	Gly
	290					295					300				
Tyr	Phe	Gln	Thr	Gly	Leu	Ile	Cys	Gln	Gly	Glu	Ile	Glu	Thr	Phe	Cys
305					310					315				320	
Arg	Arg	Ala	Asn	Leu	Asn	Pro	Glu	Ala	Phe	Gln	Ala	Ala	Ile	Gln	Gln
			325						330					335	
Gly	Arg	Leu	Leu	Ser	Phe	Leu	Phe	Pro	Lys	Met	Leu	Leu	Asp		
		340						345					350		

<210> 286

<211> 168

<212> PRT

<213> Chlamydia pneumoniae

<400> 286

Phe	Leu	Asp	Met	Asn	Ile	Pro	Ala	Pro	Gln	Val	Pro	Val	Ile	Asp	Glu
1				5					10					15	
Pro	Val	Val	Asn	Asn	Thr	Ser	Ser	Tyr	Gly	Leu	Ser	Leu	Lys	Ser	Ser
			20					25					30		
Leu	Arg	Pro	Ile	Thr	Tyr	Leu	Ile	Leu	Ala	Ile	Leu	Ala	Ile	Ala	Thr
		35					40					45			
Leu	Met	Ser	Val	Leu	Tyr	Phe	Cys	Gly	Ile	Ile	Ser	Val	Gly	Thr	Phe
	50					55				60					
Val	Leu	Gly	Met	Leu	Ile	Pro	Leu	Ser	Val	Cys	Ser	Val	Leu	Cys	Val
65					70					75				80	
Ala	Tyr	Leu	Phe	Tyr	Gln	Gln	Ser	Ser	Ile	Glu	Lys	Thr	Lys	Val	Phe
			85						90					95	
Ser	Ile	Thr	Ser	Pro	Ser	Val	Phe	Phe	Ser	Asp	Glu	Asp	Leu	Asn	Leu
			100					105					110		
Leu	Leu	Gly	Arg	Glu	Glu	Asp	Ser	Val	Ser	Ala	Ile	Asp	Glu	Leu	Leu
		115					120					125			
Lys	Asn	Phe	Pro	Ala	Asp	Asp	Phe	Arg	Arg	Pro	Lys	Met	Leu	Pro	Tyr
	130					135					140				

Ser Asn Phe Leu Asp Glu Gln Gly Arg Pro Asn Glu Ser Arg Glu Glu  
 145 150 155 160  
 Asp Ser His Thr Ser Lys Ile Leu  
 165

<210> 287

<211> 517

<212> PRT

<213> Chlamydia pneumoniae

<400> 287

Lys Glu Leu Phe Asn Leu Phe Phe Phe Thr Ala Asn Lys Glu Thr Thr  
 1 5 10 15  
 Ala Ser His Glu Leu Ile Tyr Arg Lys Asn Gln Ser Phe Ser Leu Ser  
 20 25 30  
 Pro Val Thr Ile Leu Cys Leu Leu Ala Ile Ser Val Leu Leu Leu Leu  
 35 40 45  
 Gly Val Val Phe Ala Leu Val Gly Cys His Val Leu Ala Ala Pro Leu  
 50 55 60  
 Gly Leu Leu Val Trp Gly Cys Ala Ala Ser Val Cys Ser Met Met Ala  
 65 70 75 80  
 Ile Val Ser Leu Met Cys Leu Tyr Lys Gly Gly Lys Pro Leu Ile Glu  
 85 90 95  
 Pro Ser Asn Glu Glu Lys Ile Asp Pro Thr Lys Asp Leu Glu Ile Lys  
 100 105 110  
 Asp Pro Glu Ser Leu Lys Pro Val Pro Val Glu Gly Gln Ser Leu Pro  
 115 120 125  
 Lys Glu Arg Lys Thr Val Ser Phe Lys Ala Lys Ile Pro Ser Ile Val  
 130 135 140  
 Glu Asp Asp Phe Lys Pro Tyr Val Ile Gln Ser Thr Phe Tyr His Gln  
 145 150 155 160  
 Asn Lys Val Tyr Ser Lys Pro Ile Ala Glu Arg Met Gln Ser Leu Glu  
 165 170 175  
 Lys Glu Ile Thr Thr Leu Ile Val Asp Phe Pro Arg Ala Leu Glu Glu  
 180 185 190  
 Ser Ser Lys Ser Ser Gly Ser Leu Arg Gly Val Ile Ser Glu Ile  
 195 200 205  
 Lys Asn Leu Phe Leu Pro Arg Phe Leu Ser Arg Lys Val Lys Tyr Ser  
 210 215 220  
 Leu Thr Ala Cys Leu Arg Arg Leu Gly Ser Ile Val Glu Glu Tyr Ala  
 225 230 235 240  
 Ser Ser Asp Leu Leu Ile Leu Leu Leu Thr Lys Pro Glu Pro Leu Asn  
 245 250 255  
 Met Val Thr Gln Gln Leu Ile Ala His Leu Asn Ser Leu Lys Thr Glu  
 260 265 270  
 Lys Arg Lys Leu Thr Pro His Met Gln Lys Leu Val Leu Ser Ile Asn  
 275 280 285  
 Phe Trp Phe Tyr Gly Trp Ser Leu Glu Glu Lys Cys Ile Glu Lys Ile  
 290 295 300  
 Val Ala Tyr Asp Pro Asn Leu Leu Thr Asp Glu Leu Lys Ala His Leu  
 305 310 315 320  
 Glu Ala Gly Asn Ile Val Gln Phe Leu Leu Ser Phe Gln Ser Ser Glu  
 325 330 335  
 Met Gln Arg Glu Phe Arg Ala Leu Phe Pro Ser Asp Ala Gln Glu Leu  
 340 345 350  
 Pro Ser Ala Lys Asp Gly Ser Asn Tyr Val Pro Ala Ile Asn Ser Ser  
 355 360 365  
 Glu Tyr Met Tyr Asp Phe Lys Asp Leu Ser Val Leu Lys Lys Ser Leu  
 370 375 380  
 Ser Glu Arg Leu Ala Phe Cys Glu Lys Ile Pro Ser Pro Ser Ser Trp  
 385 390 395 400



Thr	Glu	Asp	Val	Gly	Tyr	Gln	Thr	Cys	His	Val	Val	Gln	Arg	Phe	Leu
305					310					315					320
Leu	Arg	Ala	Pro	Trp	Leu	Leu	Val	Thr	Leu	Phe	Ala	Gly	Leu	Ile	Ser
				325					330					335	
Ala	Ser	Val	Met	Ala	Tyr	Phe	Gln	Lys	Ile	Ser	Pro	Ala	Leu	Leu	Ala
			340					345					350		
Leu	Ile	Ile	Phe	Phe	Ile	Pro	Leu	Ile	Asn	Gly	Met	Ser	Gly	Asn	Val
		355					360					365			
Gly	Val	Gln	Cys	Ser	Thr	Ile	Leu	Val	Arg	Ser	Met	Ala	Thr	Gly	Thr
	370					375					380				
Leu	Ser	Phe	Gly	Arg	Arg	Arg	Glu	Thr	Ile	Phe	Lys	Glu	Met	Ser	Ile
385					390					395					400
Gly	Leu	Leu	Thr	Gly	Val	Val	Leu	Gly	Ile	Leu	Cys	Gly	Leu	Val	Val
			405					410					415		
Tyr	Leu	Met	Gly	Phe	Leu	Gly	Leu	Asn	Ile	Phe	Ser	Gly	Gly	Gly	Ile
			420					425					430		
Gln	Leu	Gly	Val	Thr	Val	Ala	Thr	Gly	Val	Leu	Gly	Ala	Ser	Leu	Thr
		435					440					445			
Ala	Thr	Thr	Leu	Gly	Val	Leu	Ser	Pro	Phe	Phe	Phe	Ala	Lys	Leu	Gly
	450					455				460					
Val	Asp	Pro	Ala	Leu	Ala	Ser	Gly	Pro	Ile	Val	Thr	Ala	Leu	Asn	Asp
465					470					475					480
Ile	Met	Ser	Met	Ile	Ile	Phe	Phe	Leu	Ile	Ala	Gly	Gly	Ile	Asn	Phe
				485					490					495	
Leu	Phe	Phe	Asn												
			500												

<210> 289

<211> 714

<212> PRT

<213> Chlamydia pneumoniae

<400> 289

Arg	Arg	Cys	Met	Ile	Arg	Ser	Pro	Leu	Pro	Phe	Ile	Ser	Ser	Lys	Arg
1				5					10					15	
Ala	Leu	Asn	Met	Leu	Gly	Leu	Gln	Asp	Glu	Phe	Ser	Cys	Pro	Glu	Asp
			20					25					30		
Val	Val	Asp	Phe	Leu	Phe	Ser	Glu	Ile	Glu	Leu	Leu	Ala	Gln	Gln	Asp
		35					40					45			
Glu	Pro	Ser	Glu	Gly	Tyr	Leu	Ala	Leu	Ser	Arg	Ser	Leu	Leu	Met	Met
	50					55					60				
Thr	His	Asn	His	Pro	Lys	Val	Val	Lys	Arg	Val	Ile	Phe	Tyr	Gly	Val
65					70					75					80
Ser	Tyr	Gly	Leu	Lys	His	Lys	Ser	Met	Ser	Ile	Phe	Ile	Asp	Val	Leu
				85					90					95	
Thr	Tyr	Ile	Asp	Phe	Leu	Phe	Glu	Lys	Leu	Gly	Ile	Ser	Ala	Ser	Asp
			100					105					110		
Arg	Leu	Ser	Leu	Cys	Ser	Ala	Arg	Thr	Cys	Ile	Asn	Phe	Glu	Leu	Tyr
		115					120					125			
Ser	Gln	Thr	Gly	Glu	Met	Lys	Phe	Leu	Ser	Glu	Val	Val	Asp	Asn	Phe
	130					135					140				
Arg	Leu	Ile	Glu	Gln	Leu	Leu	Lys	Met	His	Pro	Gln	Leu	Lys	Asn	Arg
145					150					155					160
Leu	Gly	Trp	Glu	His	Phe	Arg	Ile	Gly	Ala	Lys	Gln	Glu	Glu	Val	Ser
				165					170					175	
Leu	Val	Ala	Ser	Ala	Ser	Val	Tyr	Gln	Ala	Val	Gly	Arg	Ser	Phe	Ile
			180					185					190		
Glu	Leu	Tyr	His	Lys	His	Leu	Glu	Leu	Ser	Asp	Leu	Ala	Cys	Gly	Met
		195					200					205			
Lys	Cys	Leu	Ala	Leu	Ala	Leu	Asp	Leu	Ser	Pro	Asn	Asn	Ala	His	Ile
	210						215					220			

His	Ala	Asp	Tyr	Ala	Lys	Gly	Leu	Val	Val	Leu	Gly	Thr	Arg	Gln	Gly
225					230					235					240
Lys	Ser	Leu	Leu	Ile	Glu	Arg	Gly	Met	Glu	His	Phe	Ser	Lys	Ala	Ile
				245					250					255	
Phe	Leu	Ser	Phe	Ser	Arg	Asp	Gly	Asp	Thr	Leu	Ala	Tyr	Gln	Asn	Tyr
			260					265					270		
Arg	Tyr	Ser	Tyr	Ala	Leu	Ala	Ser	Val	Lys	Leu	Phe	Asp	Leu	Thr	Tyr
		275					280					285			
Lys	Lys	Glu	His	Phe	Asp	Gln	Ala	Met	Asn	Ile	Leu	Tyr	Gln	Thr	Val
290						295					300				
Gln	Ala	Phe	Pro	Asn	Leu	Ser	Gly	Leu	Trp	Met	Val	Trp	Gly	Glu	Leu
305				310						315					320
Leu	Ile	Arg	Ser	Gly	Trp	Leu	Asn	Ser	Asn	Met	Lys	Tyr	Ile	Glu	Val
				325					330					335	
Gly	Leu	Glu	Lys	Leu	Ala	Ser	Leu	Gln	Lys	Lys	Thr	Asn	Asp	Pro	Ile
			340					345				350			
Ala	Leu	Ser	Gly	Leu	Leu	Ala	Thr	Gly	Ile	Ala	Ile	Leu	Gly	Leu	Tyr
		355					360					365			
Leu	Glu	Glu	Pro	Asn	Leu	Phe	Lys	Asp	Ser	Arg	His	Arg	Leu	Ile	Ser
370						375					380				
Ala	Met	Arg	Thr	Phe	Pro	Gly	Asn	Ser	Ala	Leu	Val	His	Ala	Leu	Gly
385					390					395					400
Val	Val	Gln	Leu	Cys	Ser	Ala	Leu	Tyr	Phe	Asn	Glu	Asp	Ser	His	Phe
				405					410					415	
Ala	Ser	Ala	Ile	Ser	Cys	Phe	Gln	Ser	Cys	Leu	Glu	Trp	Asp	Leu	Asp
			420					425					430		
Ala	Thr	Gly	Met	Trp	Gln	Lys	Leu	Phe	Asp	Ala	Tyr	Phe	Ser	Trp	Gly
		435					440					445			
Ile	Lys	Lys	Lys	Ser	Ala	Arg	Leu	Leu	Arg	Lys	Ala	Val	Asp	Val	Ala
	450					455					460				
Ser	Arg	Leu	Cys	Ser	Leu	Arg	Pro	Glu	Ala	Phe	Leu	Phe	Trp	Ser	Asp
465					470					475					480
Arg	Gly	Leu	Ala	Leu	Lys	Cys	Leu	Ala	Glu	Ala	Thr	Ile	Asp	Glu	Ala
				485					490					495	
Tyr	Lys	Glu	Ile	Phe	Leu	Ser	Glu	Ser	Leu	Leu	His	Tyr	Gln	Arg	Ala
			500					505					510		
Trp	Asp	Leu	Ser	Gly	Arg	Leu	Glu	Ile	Leu	Glu	Leu	Trp	Gly	Gln	Ser
		515					520					525			
His	Tyr	Leu	Leu	Ala	Glu	Leu	Gln	Gln	Ser	Leu	Phe	His	Tyr	Asp	Glu
		530				535					540				
Ala	Tyr	Thr	Leu	Leu	Thr	Lys	Val	Asp	Leu	Thr	Leu	Ser	Ser	Ser	Arg
545					550					555					560
Val	Lys	Leu	Ile	Leu	Ala	Ala	Val	Leu	Leu	Gly	Lys	Gly	Arg	Leu	Leu
				565					570					575	
Gln	Asp	Thr	Asp	Pro	Ala	Glu	Glu	Ala	Arg	Glu	Ile	Leu	Glu	Pro	Leu
			580					585					590		
Val	Glu	Val	Tyr	Leu	Glu	Asp	Glu	Asn	Phe	Leu	Leu	Leu	Leu	Gly	Lys
		595					600					605			
Val	Tyr	Leu	Phe	Leu	Phe	Trp	Lys	Asn	Lys	Asn	Val	Cys	Leu	Gly	Lys
		610				615					620				
Leu	Ala	Arg	Thr	Tyr	Leu	Glu	Lys	Ala	Thr	Ser	Leu	Gly	Cys	Pro	Glu
625					630					635					640
Ala	Tyr	Tyr	Thr	Leu	Gly	Lys	Phe	Tyr	Ala	Val	Ile	Lys	Asp	Val	Asn
				645					650					655	
Lys	Ala	Trp	Gly	Met	Val	Ile	Arg	Ser	Ala	Gln	Tyr	Gly	Val	Arg	Ile
			660					665					670		
Thr	Glu	Ala	Lys	Trp	Leu	Asn	Asp	Pro	Tyr	Leu	Ala	Asn	Leu	Arg	Glu
		675					680					685			
Ile	His	Ala	Phe	Arg	Glu	Val	Val	Glu	Asn	Gln	Lys	Gly	Arg	Leu	Trp
690						695					700				



Leu Gly Asn Lys Thr Glu Met Lys Arg Asn  
705 710

<210> 290  
<211> 405  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 290  
Ile Ser Ile Thr Ile Arg Glu Phe Leu Phe Phe Gly Phe Glu Cys Arg  
1 5 10 15  
Ala Lys Phe Tyr Asn Val Ile Met Ser Cys Phe Asn Leu Thr Ser Thr  
20 25 30  
Asn Glu Ser Leu Arg Pro Ile Ser Pro Lys Ala Ser Phe Pro Lys Gln  
35 40 45  
Gly Trp Gln Ser Tyr Phe Arg Ser Ala Leu Arg Lys His Arg Ser Asp  
50 55 60  
Thr Leu Ser Val Ser Val Cys Lys Val Asn Lys Tyr Asp Ala Asn Leu  
65 70 75 80  
Phe Val Arg Leu Thr Val Ile Ala Leu Ala Val Val Gly Val Leu Ile  
85 90 95  
Leu Phe Ser Ile Met Leu Ala Ser Ile Gln Gly Thr Leu Val Ile Thr  
100 105 110  
Ser Trp Pro Leu Val Thr Ala Ala Ile Leu Ile Pro Thr Ile Leu Leu  
115 120 125  
Thr Gly Gly Met Tyr Ile Leu His Arg Leu Gly Lys Val Asp Val  
130 135 140  
Ile Ser Gly Val Cys Ile Pro Pro Phe Ser Arg Arg Cys Trp Val Pro  
145 150 155 160  
Ile Ser Ser Ser His Thr Leu Glu Lys Phe Asp Glu Lys His Val Ser  
165 170 175  
Ala Cys Ser Tyr Leu Asp Ile Ser Thr Leu Ser Ala Asp Gly Ser Gly  
180 185 190  
Ile Ala Ala Val Tyr Gln Cys Pro Pro Leu Leu Phe Arg Ala Phe Pro  
195 200 205  
Cys Phe Gly Ile Pro Cys Ala Met Pro Phe Val Ala Leu Leu Arg Met  
210 215 220  
Ile Tyr Asn Leu Ile Arg Phe Leu Val Val Pro Phe Tyr Ile Ile Phe  
225 230 235 240  
Arg Met Ile Tyr Glu His Phe Phe Cys Lys His Leu Pro Glu Asp Asp  
245 250 255  
Arg Phe Ile Tyr Lys Asp Val Ala Arg Glu Met Gly Arg Ser Leu Ala  
260 265 270  
Ala Phe Leu Lys Ala Pro Phe Tyr Ala Ser Ala Cys Met Ile Gly Ala  
275 280 285  
Phe Tyr Ser Leu Leu Asp Pro Leu Ala Gly Arg Val Leu Met Gly Ser  
290 295 300  
Val Glu Arg Asp Trp Asn Asp Asn Val Ile Leu Ala Arg Ser Val Ser  
305 310 315 320  
Leu Ala Asn Glu Ala His Ser Leu Phe Arg Phe Glu Gly Gly Gly Gly  
325 330 335  
Arg Lys Gly Leu Gly Gln His Ala Phe Tyr Leu Met Leu Cys Cys Gln  
340 345 350  
Pro Gln Ser Val Phe Leu Phe Asp Lys Gly Glu Ile Val Ser Gly Ala  
355 360 365  
His Pro Ser Ile Gln Leu Pro Glu Arg Arg Gly Leu Asp Thr Ser Gly  
370 375 380  
Arg Tyr Pro His Ile Ser Val Ile Pro Asp Ser Gly Asn Asp Ser Ala  
385 390 395 400  
Lys Asn Phe Ile Val  
405

<210> 291  
 <211> 400  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 291  
 Asn Phe Asn Arg Leu Met Lys Lys Gln Arg Ser His Tyr Lys Lys Asn  
 1 5 10 15  
 Asn Leu Leu Leu Leu Leu Ser Ile Leu Val Gly Leu Gly Leu Gly Ser  
 20 25 30  
 Val Gln Ser Pro Trp Ile Val Tyr Ser Ala Glu Cys Ile Ala Asn Thr  
 35 40 45  
 Phe Leu Lys Phe Leu Arg Leu Leu Ser Ile Pro Leu Val Phe Cys Ala  
 50 55 60  
 Leu Gly Ser Thr Ile Thr Ser Ile Gln Asn Phe Asn Thr Met Val Thr  
 65 70 75 80  
 Leu Gly Lys Arg Ile Leu Tyr Tyr Thr Leu Leu Thr Thr Val Ile Ala  
 85 90 95  
 Ala Ser Ile Gly Leu Leu Leu Phe Phe Leu Leu Arg Pro Gln Met Ile  
 100 105 110  
 Thr Gln Asp Ala Leu Ala Thr Thr Thr Lys Cys Asn Pro Leu Gly Tyr  
 115 120 125  
 Leu Asp Val Leu Ser Asp Thr Leu Pro Glu Asn Ile Phe Lys Pro Phe  
 130 135 140  
 Leu Gln Gly Asn Val Ile Ser Ala Ala Cys Leu Ala Val Leu Leu Gly  
 145 150 155 160  
 Thr Ala Ser Leu Phe Leu Gln Glu Lys Glu Lys His Phe Val Asn Gln  
 165 170 175  
 Phe Phe Asn Ser Phe Phe Ser Ile Phe Leu Asn Leu Ala Arg Gly Gly  
 180 185 190  
 Leu Lys Leu Leu Pro Ile Ala Met Leu Gly Phe Ser Val Ile Leu Phe  
 195 200 205  
 Lys Glu Leu Lys Asp Gln Ser Asn Leu Thr Met Phe Ala Glu Tyr Leu  
 210 215 220  
 Leu Cys Val Ile Gly Ala Asn Leu Ala Gln Gly Phe Ile Val Leu Pro  
 225 230 235 240  
 Ile Leu Leu Lys Ile Asn Lys Val Ser Pro Leu Lys Val Ala Lys Ala  
 245 250 255  
 Met Ser Pro Ala Leu Val Thr Ala Phe Phe Ser Lys Ser Ser Ala Ala  
 260 265 270  
 Thr Leu Pro Leu Thr Met Glu Leu Ala Glu Asp Asp Leu Lys Ile Asn  
 275 280 285  
 Lys Asn Leu Ser Arg Phe Ser Phe Pro Leu Cys Ser Val Ile Asn Met  
 290 295 300  
 Asn Gly Cys Ala Ala Phe Ile Leu Ile Thr Val Leu Phe Val Ala Thr  
 305 310 315 320  
 Ser Asn Gly Met Ile Ile Ser Pro Leu Met Ser Leu Gly Trp Ile Phe  
 325 330 335  
 Ile Ala Thr Leu Ala Ala Ile Gly Asn Ala Gly Val Pro Met Gly Cys  
 340 345 350  
 Tyr Phe Leu Thr Leu Ser Leu Leu Thr Ser Met Asn Val Pro Leu Ser  
 355 360 365  
 Ile Leu Gly Leu Ile Leu Pro Phe Tyr Thr Val Ile Asp Met Ile Glu  
 370 375 380  
 Thr Ser Leu Asn Val Trp Ser Asp Cys Cys Val Val Ser Leu Ala Asn  
 385 390 395 400

<210> 292  
 <211> 499  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 292

Arg	Ser	Ala	Leu	Thr	Met	Asn	Lys	Lys	His	Ala	Ser	Phe	Ser	Ser	Arg
1				5					10					15	
Leu	Gly	Phe	Ile	Phe	Ser	Met	Ile	Gly	Ile	Ala	Val	Gly	Ala	Gly	Asn
			20					25					30		
Ile	Trp	Arg	Phe	Pro	Arg	Val	Ala	Ala	Gln	Asn	Gly	Gly	Gly	Ala	Phe
		35					40					45			
Leu	Ile	Leu	Trp	Leu	Cys	Phe	Leu	Phe	Leu	Trp	Ser	Ile	Pro	Leu	Ile
	50					55					60				
Ile	Ile	Glu	Leu	Ser	Ile	Gly	Lys	Leu	Thr	Lys	Lys	Ala	Pro	Ile	Gly
65					70					75					80
Ala	Leu	Ile	Lys	Thr	Ala	Gly	Lys	Lys	Phe	Ala	Trp	Ala	Gly	Gly	Phe
				85					90					95	
Ile	Thr	Leu	Val	Thr	Thr	Cys	Ile	Leu	Ala	Tyr	Tyr	Ser	Thr	Ile	Val
			100					105					110		
Gly	Trp	Gly	Leu	Ser	Tyr	Phe	Tyr	Tyr	Ala	Val	Ser	Gly	Lys	Ile	His
		115					120					125			
Leu	Gly	Asn	Asp	Phe	Ala	Lys	Leu	Trp	Thr	Ser	His	Tyr	Gln	Ser	Ser
	130					135					140				
Ile	Pro	Leu	Trp	Ala	His	Leu	Thr	Ser	Leu	Gly	Leu	Ala	Tyr	Leu	Val
145					150					155					160
Ile	Arg	Lys	Gly	Ile	Val	His	Gly	Ile	Glu	Lys	Cys	Asn	Lys	Ile	Leu
				165					170					175	
Ile	Pro	Ala	Phe	Phe	Leu	Cys	Thr	Ile	Ala	Leu	Leu	Leu	Arg	Ala	Val
			180					185					190		
Thr	Leu	Pro	Gly	Ala	Val	Gln	Gly	Ile	Lys	Gln	Leu	Phe	Ser	Cys	Asp
		195				200						205			
Lys	Ser	Cys	Phe	Ser	Asn	Tyr	Lys	Val	Trp	Ile	Glu	Ala	Leu	Thr	Gln
	210					215					220				
Asn	Ala	Trp	Asp	Thr	Gly	Ala	Gly	Trp	Gly	Leu	Leu	Leu	Val	Tyr	Ala
225					230					235					240
Gly	Phe	Ala	Ser	Lys	Lys	Thr	Gly	Val	Val	Ser	Asn	Gly	Ala	Leu	Thr
				245					250					255	
Ala	Ile	Cys	Asn	Asn	Leu	Val	Ser	Leu	Ile	Met	Gly	Ile	Ile	Ile	Phe
			260					265					270		
Ser	Thr	Cys	Ala	Ser	Leu	Asp	Ile	Leu	Gly	Thr	Thr	Gln	Leu	Gln	Asp
		275					280					285			
Gly	Ala	Gly	Ala	Ser	Ser	Ile	Gly	Ile	Thr	Phe	Ile	Tyr	Leu	Pro	Glu
	290					295					300				
Leu	Phe	Thr	Arg	Leu	Pro	Gly	Gly	Ile	Tyr	Leu	Thr	Thr	Leu	Phe	Ser
305					310					315					320
Ser	Ile	Phe	Phe	Leu	Ala	Phe	Ser	Met	Ala	Ala	Leu	Ser	Ser	Met	Ile
				325					330					335	
Ser	Met	Leu	Phe	Leu	Leu	Ser	Gln	Thr	Leu	Ala	Glu	Phe	Gly	Ile	Lys
			340					345					350		
Pro	Tyr	Ile	Ser	Glu	Thr	Leu	Ala	Thr	Ile	Ile	Ala	Phe	Val	Leu	Gly
		355					360					365			
Ile	Pro	Ser	Ala	Leu	Ser	Leu	Thr	Phe	Phe	Ser	Asn	Gln	Asp	Thr	Val
	370					375					380				
Trp	Gly	Val	Ala	Leu	Ile	Val	Asn	Gly	Leu	Ile	Phe	Ile	Tyr	Ala	Ala
385					390					395					400
Leu	Val	Tyr	Gly	Phe	Pro	Lys	Leu	Lys	Lys	Glu	Val	Ile	Asn	Ala	Ala
				405					410					415	
Pro	Gly	Asp	Leu	Arg	Leu	Asn	Lys	Ala	Phe	Asp	Tyr	Ile	Ile	Lys	Tyr
			420					425					430		
Leu	Leu	Pro	Ile	Glu	Gly	Ile	Leu	Leu	Leu	Gly	Trp	Tyr	Phe	Tyr	Glu
		435					440					445			
Gly	Leu	Phe	Pro	Glu	Asn	Gly	Gln	Trp	Trp	Asn	Pro	Ile	Ser	Leu	Tyr
	450					455					460				
Ser	Leu	Gly	Ser	Leu	Val	Leu	Gln	Trp	Ser	Leu	Gly	Leu	Ile	Ile	Leu
465					470					475					480

Trp Lys Phe Asn Lys Gln Leu Tyr Leu Arg Phe Ser Arg Tyr Asn His  
485 490 495  
Glu Ile Leu

<210> 293  
<211> 179  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 293  
Glu Lys His Met Ser Ala Pro Ile Pro Thr Pro Gln Glu Leu Ser Asp  
1 5 10 15  
Gln Ile Thr Cys Leu Asn Val Gln Tyr Gln Gln Val Ser Glu Leu Ala  
20 25 30  
Arg Glu Asn Lys Gly Asp Ile Glu Gly Leu Lys Thr Leu Thr Ala Ala  
35 40 45  
Leu Thr Ala Asp Ala Gly Ile Gln Pro Ser Ala Asp Glu Ile Tyr Ser  
50 55 60  
Leu Gln Thr Ala Ala Ala Leu Ile Leu Ser Ala Ser Glu Lys Pro Gly  
65 70 75 80  
Ser Gly Pro Ser Gly Ser Thr Glu Gly Ser Val Thr Val Gln Ser Pro  
85 90 95  
Cys Lys Phe Lys Lys Val Leu Ala Val Val Leu Thr Ile Ile Ala Leu  
100 105 110  
Ile Ala Ile Ala Val Leu Ile Ala Cys Ile Ile Ala Ala Cys Gly Gly  
115 120 125  
Phe Pro Leu Leu Leu Ser Ala Leu Asn Leu Tyr Thr Ile Gly Ala Cys  
130 135 140  
Val Ser Leu Pro Ile Ile Ala Ser Thr Ser Val Ala Leu Ile Cys Leu  
145 150 155 160  
Cys Thr Phe Val Ala Asn Ser Leu Ile Lys Pro Val Ile Thr Val Arg  
165 170 175  
Thr Thr Arg

<210> 294  
<211> 212  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 294  
Val Lys Asn Thr Lys Asn Ser Asp Phe Met Thr Ser Pro Ile Pro Phe  
1 5 10 15  
Gln Ser Ser Gly Asp Ala Ser Phe Leu Ala Glu Gln Pro Gln Gln Leu  
20 25 30  
Pro Ser Thr Ser Glu Ser Gln Leu Val Thr Gln Leu Leu Thr Met Met  
35 40 45  
Lys His Thr Gln Ala Leu Ser Glu Thr Val Leu Gln Gln Arg Asp  
50 55 60  
Arg Leu Pro Thr Ala Ser Ile Ile Leu Gln Val Gly Gly Ala Pro Thr  
65 70 75 80  
Gly Gly Ala Gly Ala Pro Phe Gln Pro Gly Pro Ala Asp Asp His His  
85 90 95  
His Pro Ile Pro Pro Pro Val Val Pro Ala Gln Ile Glu Thr Glu Ile  
100 105 110  
Thr Thr Ile Arg Ser Glu Leu Gln Leu Met Arg Ser Thr Leu Gln Gln  
115 120 125  
Ser Thr Lys Gly Ala Arg Thr Gly Val Leu Val Val Thr Ala Ile Leu  
130 135 140

Met Thr Ile Ser Leu Leu Ala Ile Ile Ile Ile Ile Leu Ala Val Leu  
 145 150 155 160  
 Gly Phe Thr Gly Val Leu Pro Gln Val Ala Leu Leu Met Gln Gly Glu  
 165 170 175  
 Thr Asn Leu Ile Trp Ala Met Val Ser Gly Ser Ile Ile Cys Phe Ile  
 180 185 190  
 Ala Leu Ile Gly Thr Leu Gly Leu Ile Leu Thr Asn Lys Asn Thr Pro  
 195 200 205  
 Leu Pro Ala Ser  
 210

<210> 295  
 <211> 928  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 295  
 Val Trp Ser Met Gln Arg Val Leu Arg Leu Leu Phe Asn Leu His His  
 1 5 10 15  
 Gly Glu Glu Lys Arg Ala Phe Leu Phe Phe Leu Leu Gly Leu Val Trp  
 20 25 30  
 Gly Ile Gly Cys Tyr Gly Thr Leu Ser Leu Ala Glu Gly Leu Phe Ile  
 35 40 45  
 Glu Lys Leu Gly Ser Ala Glu Leu Pro Lys Ile Tyr Leu Gly Ser Ser  
 50 55 60  
 Leu Ile Leu Cys Val Leu Ser Ser Leu Ile Leu Tyr Asn Leu Phe Lys  
 65 70 75 80  
 Lys His Ile Ser Ala Thr Ala Leu Phe Leu Ile Pro Val Ser Leu Ser  
 85 90 95  
 Ile Leu Cys Asn Phe Tyr Leu Ile Leu Ser Ser Ile Phe Ala Ile Asp  
 100 105 110  
 Pro Pro Arg Ser Pro Leu Phe Phe Tyr Arg Ile Val Ile Trp Ser Leu  
 115 120 125  
 Thr Ile Leu Ser Tyr Thr Ser Phe Trp Gly Phe Val Asp Gln Phe Phe  
 130 135 140  
 Asn Leu Gln Asp Gly Lys Arg His Phe Cys Ile Phe Asn Ala Ile Ile  
 145 150 155 160  
 Phe Leu Gly Asp Ala Ile Gly Ser Gly Ile Ile Ala Ser Leu Val His  
 165 170 175  
 Thr Ile Gly Ile Gln Gly Ile Leu Ile Leu Phe Thr Ala Ala Leu Val  
 180 185 190  
 Leu Thr Phe Pro Ile Val Phe Tyr Val Ser Lys Ser Leu Lys Ser Leu  
 195 200 205  
 Ser Asp Asp His Asp Leu Phe Ile Asp Thr Gly His Pro Pro Pro Leu  
 210 215 220  
 Ser Lys Ala Leu Lys Leu Cys Phe Tyr Asp Lys Tyr Thr Phe Tyr Leu  
 225 230 235 240  
 Leu Cys Phe Tyr Phe Leu Met Gln Leu Leu Ala Ile Ala Thr Glu Phe  
 245 250 255  
 Asn Tyr Leu Lys Ile Phe Glu Ile Gln Phe Ala Ser Lys Glu Glu Phe  
 260 265 270  
 Glu Leu Val Ala His Ile Gly Lys Cys Ser Leu Trp Ile Ser Leu Gly  
 275 280 285  
 Asn Met Cys Phe Ala Leu Phe Ala Tyr Ser Arg Ile Val Lys Arg Leu  
 290 295 300  
 Gly Val Asn Asn Ile Ile Leu Phe Ala Pro Leu Cys Phe Leu Ser Leu  
 305 310 315 320  
 Phe Leu Phe Trp Thr Phe Lys Thr Thr Leu Ser Ile Ala Val Leu Ala  
 325 330 335  
 Met Val Val Arg Glu Gly Val Thr Tyr Ala Leu Asp Asp Asn Asn Leu  
 340 345 350

Gln Leu Leu Ile Tyr Gly Val Pro Asn Lys Ile Arg Asn Gln Ile Arg  
 355 360 365  
 Ile Val Val Glu Ser Phe Ile Glu Pro Ile Gly Met Leu Val Trp Ser  
 370 375 380  
 Leu Ile Cys Phe Leu Ser Ser Gln Gln Tyr Val Phe Cys Leu Ile Ile  
 385 390 395 400  
 Ser Leu Ile Ala Thr Ile Leu Val Cys Leu Val Arg Ser Tyr Tyr Ala  
 405 410 415  
 Lys Ala Ile Leu Lys Asn Leu Ser Ala Gln Ala Leu Gln Leu Thr Arg  
 420 425 430  
 Ser Met Gln Asp Trp Ile Lys Ser Met Thr Val Lys Gln Lys Arg Gln  
 435 440 445  
 Val Glu Leu Phe Leu Leu Ala His Leu Lys His Pro Ser Glu Arg His  
 450 455 460  
 Gln Thr Phe Ala Phe Gln His Leu Leu Asn Leu Ala Ser Arg Ser Val  
 465 470 475 480  
 Leu Pro Ser Leu Leu Ala His Met Asn Lys Leu Ser Leu Pro Asn Lys  
 485 490 495  
 Leu Lys Thr Ile Glu Met Val Lys Ser Ser Leu Trp Ala Lys Asp Phe  
 500 505 510  
 Leu Thr Leu Glu Leu Leu Lys Arg Trp Thr Ser Ile Phe Pro His Pro  
 515 520 525  
 Ala Ile Ala Ser Ala Ile His Leu Tyr Phe Ala Glu His Asp Leu Leu  
 530 535 540  
 His Ile Thr His Ile Ala Glu Asp Leu Tyr Asp Thr Val Gly Asp Arg  
 545 550 555 560  
 Leu Leu Ala Ala Ile Leu Thr Val Arg Arg Gln Glu Ala Tyr Gly Pro  
 565 570 575  
 Tyr Arg Asp Leu Ala Asp Lys Arg Leu Lys Glu Leu Leu Asn Ser Asp  
 580 585 590  
 Gln Pro Glu Asp Ile Val Met Gly Leu Thr Ile Leu Lys Leu Glu Lys  
 595 600 605  
 Asn Pro Gln Asn Phe Pro Ile Leu Leu Asp Phe Leu Asn Thr Lys Asn  
 610 615 620  
 Glu Asp Ile Leu Ile Val Thr Cys Lys Ala Leu His Thr Ser Val Arg  
 625 630 635 640  
 Ala Asn His Lys Pro Tyr Cys Pro Glu Leu Lys Arg Leu Arg Gln  
 645 650 655  
 Cys Ser His Asn Asp Glu Ala Ser Gln Tyr Leu Leu Lys Thr Ile Ser  
 660 665 670  
 Ile Ala Leu Asp Ile Ser Phe Val Lys Asp Leu Leu Met Thr Thr Ser  
 675 680 685  
 Gln Leu Lys Asn Thr Ser Arg Lys Tyr Ala Glu Ala Met Ile Gly Glu  
 690 695 700  
 Leu Asp Lys Glu Val Ala Pro Ala Phe Leu Gln Val Leu Thr Asp Glu  
 705 710 715 720  
 Gly Thr His Asn Arg Cys Arg Ile Leu Ala Ala Lys Ala Leu Cys Lys  
 725 730 735  
 Ile Asp Asn Trp Leu Leu Lys Lys His Ala Tyr Lys Ile Val Lys Ser  
 740 745 750  
 Lys Ala Ser Lys Ala Leu Phe Tyr Ser Tyr His Gly His Tyr Ile Gln  
 755 760 765  
 Lys Lys Tyr Pro Thr Tyr Asn Leu Ser Leu Leu Ala Asn Thr Leu Asn  
 770 775 780  
 Ser Asn Tyr Tyr Ala Glu Val Asn Phe Met Leu Ser Leu Leu Gly Ile  
 785 790 795 800  
 Leu Gly Ser Met Glu His Ser Gly Val Leu Ile Arg Ala Leu Thr Ser  
 805 810 815  
 Lys Asn Gln Lys Ile Lys Ala Gln Ala Leu Glu Ser Leu Glu Lys Asn  
 820 825 830

Cys Asp Ser His Leu Phe Ser Leu Leu Glu Pro Phe Val Asn Gln Pro  
                   835                                  840                                  845  
 Gly Met Cys Tyr Ser Glu Lys Tyr Tyr Phe Lys Cys Gly Val Ile Pro  
                   850                                  855                                  860  
 Leu Thr Leu Lys Glu Leu Leu Asn Met Met Glu Asn Ser Pro Ser Ser  
 865                                  870                                  875                                  880  
 Leu Asn Lys Leu Thr Ala Gln Gln Leu Lys Glu Glu Leu Ser Tyr Cys  
                                   885                                  890                                  895  
 Asp Pro Asp Phe Gln Ser Val Asn Thr Ile Tyr Asn Gln Glu His Glu  
                                   900                                  905                                  910  
 Asp Phe Arg Thr Glu Glu Ser Glu Thr Leu Ile Ser Phe Leu Ser Ile  
                   915                                  920                                  925

<210> 296  
 <211> 142  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 296  
 Ile Arg Asn Phe Phe Met Asn Leu Ile Asp Arg Ala Phe Leu Leu Lys  
   1                                  5                                  10                                  15  
 Lys Thr Ile Ile Phe Gln Ser Leu Asp Met Asp Leu Leu Thr Ile  
                                   20                                  25                                  30  
 Ala Asp Lys Thr Glu Thr Ile Ile Phe Lys Pro Gly Ser Asn Val Phe  
                                   35                                  40                                  45  
 Ser Ile Gly Gln Pro Gly Phe Ser Phe Tyr Ile Ile Val Glu Gly Tyr  
                                   50                                  55                                  60  
 Ile Thr Ile Ser Lys Glu Lys Leu Glu Ser Pro Leu Asn Leu Lys Pro  
 65                                  70                                  75                                  80  
 Leu Asp Cys Phe Gly Glu Glu Ser Leu Phe Asn Asn Lys Pro Arg Glu  
                                   85                                  90                                  95  
 Tyr Asn Ala Ser Ala Asn Thr Gln Val Arg Met Leu Val Leu Ser Lys  
                                   100                                  105                                  110  
 Gly Gln Ile Leu Asn Ile Val Glu Cys Pro Ser Val Ala Leu Ser  
                                   115                                  120                                  125  
 Phe Leu Glu Leu Tyr Ala Lys Gln Ile Lys Phe Arg Glu Pro  
                   130                                  135                                  140

<210> 297  
 <211> 80  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 297  
 Ala Met Ser Leu Glu Asp Asp Val Ile Ala Ile Ile Val Glu Gln Leu  
   1                                  5                                  10                                  15  
 Gly Val Asp Pro Lys Glu Val Asn Glu Asn Ser Ser Phe Ile Glu Asp  
                                   20                                  25                                  30  
 Leu Asn Ala Asp Ser Leu Asp Leu Thr Glu Leu Ile Met Thr Leu Glu  
                                   35                                  40                                  45  
 Glu Lys Phe Ala Phe Glu Ile Ser Glu Glu Asp Ala Glu Lys Leu Arg  
                                   50                                  55                                  60  
 Thr Val Gly Asp Val Phe Thr Tyr Ile Lys Lys Arg Gln Ala Glu Gln  
 65                                  70                                  75                                  80

<210> 298  
 <211> 257  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 298

Lys	Ile	Pro	Ile	Arg	Gly	Met	Ile	Cys	Met	Asp	Ile	Thr	Leu	Val	Gly
1				5					10					15	
Lys	Lys	Val	Ile	Val	Thr	Gly	Gly	Ser	Arg	Gly	Ile	Gly	Leu	Gly	Ile
		20						25					30		
Val	Lys	Leu	Phe	Leu	Glu	Asn	Gly	Ala	Asp	Val	Glu	Ile	Trp	Gly	Leu
		35					40					45			
Asn	Glu	Glu	Arg	Gly	Gln	Ala	Val	Ile	Glu	Ser	Leu	Thr	Gly	Leu	Gly
	50					55					60				
Gly	Glu	Val	Ser	Phe	Ala	Arg	Val	Asp	Val	Ser	His	Asn	Gly	Gly	Val
65					70					75				80	
Lys	Asp	Cys	Val	Gln	Lys	Phe	Leu	Asp	Lys	His	Asn	Lys	Ile	Asp	Ile
			85						90					95	
Leu	Val	Asn	Asn	Ala	Gly	Ile	Thr	Arg	Asp	Asn	Leu	Leu	Met	Arg	Met
			100						105					110	
Ser	Glu	Asp	Asp	Trp	Gln	Ser	Val	Ile	Ser	Thr	Asn	Leu	Thr	Ser	Leu
		115					120						125		
Tyr	Tyr	Thr	Cys	Ser	Ser	Val	Ile	Arg	His	Met	Ile	Lys	Ala	Arg	Ser
	130					135					140				
Gly	Ser	Ile	Ile	Asn	Val	Ala	Ser	Ile	Val	Ala	Lys	Ile	Gly	Ser	Ala
145					150					155					160
Gly	Gln	Thr	Asn	Tyr	Ala	Ala	Ala	Lys	Ala	Gly	Ile	Ile	Ala	Phe	Thr
			165						170					175	
Lys	Ser	Leu	Ala	Lys	Glu	Val	Ala	Ala	Arg	Asn	Ile	Arg	Val	Asn	Cys
			180					185					190		
Leu	Ala	Pro	Gly	Phe	Ile	Glu	Thr	Asp	Met	Thr	Ser	Val	Leu	Asn	Asp
		195					200					205			
Asn	Leu	Lys	Ala	Glu	Trp	Leu	Lys	Ser	Ile	Pro	Leu	Gly	Arg	Ala	Gly
	210					215					220				
Thr	Pro	Glu	Asp	Val	Ala	Arg	Val	Ala	Leu	Phe	Leu	Ala	Ser	Gln	Leu
225					230					235					240
Ser	Ser	Tyr	Met	Thr	Ala	Gln	Thr	Leu	Val	Val	Asp	Gly	Gly	Leu	Thr
				245					250					255	

Tyr

<210> 299

<211> 317

<212> PRT

<213> Chlamydia pneumoniae

<400> 299

Ser	Arg	Ser	Asn	Lys	Asp	Asp	Asn	Phe	Met	Lys	Lys	Arg	Tyr	Ala	Phe
1				5					10					15	
Leu	Phe	Pro	Gly	Gln	Gly	Ser	Gln	Tyr	Val	Gly	Met	Gly	Gln	Asp	Leu
		20						25					30		
Tyr	Met	Glu	Tyr	Pro	Glu	Val	Arg	Glu	Leu	Phe	Asp	Phe	Ala	Asn	Glu
		35					40					45			
Arg	Leu	Gly	Phe	Ser	Leu	Thr	Ser	Ile	Met	Phe	Glu	Gly	Pro	Glu	Asp
	50					55					60				
Leu	Leu	Met	Glu	Thr	Val	His	Ser	Gln	Leu	Ala	Ile	Tyr	Leu	His	Ser
65					70					75				80	
Met	Ala	Val	Val	Lys	Val	Leu	Ser	Gln	Arg	Ser	Ser	Ile	Gln	Pro	Ser
			85						90					95	
Leu	Val	Ser	Gly	Leu	Ser	Leu	Gly	Glu	Tyr	Thr	Ala	Leu	Val	Ala	Ser
			100					105						110	
Asp	Arg	Ile	Ser	Val	Leu	Asp	Gly	Leu	Glu	Leu	Val	Arg	Lys	Arg	Gly
		115					120					125			
Gln	Leu	Met	Asn	Glu	Ala	Cys	Asn	Gln	Ser	Pro	Gly	Ala	Met	Ala	Ala
	130					135						140			



Leu Leu Gly Leu Pro Ser Glu Val Ile Glu Glu Asn Ile Thr Ser Leu  
 145 150 155 160  
 Gly Gln Gly Ile Trp Ile Ala Asn Tyr Asn Ala Pro Lys Gln Leu Val  
 165 170 175  
 Val Ala Gly Ile Ala Glu Lys Val Asp Gln Ala Ile Glu Leu Phe Arg  
 180 185 190  
 Asp Leu Gly Cys Lys Lys Ala Val Arg Leu Lys Val Ser Gly Ala Phe  
 195 200 205  
 His Thr Pro Leu Met Gln Val Ala Gln Asp Gly Leu Ala Pro Asp Ile  
 210 215 220  
 Tyr Ala Leu Cys Met Lys Asp Ser Ser Leu Pro Leu Val Ser His Val  
 225 230 235 240  
 Val Gly Lys Ser Leu Val Asn Thr Glu Glu Met Arg Glu Cys Leu Ala  
 245 250 255  
 Arg Gln Met Thr Ser Pro Thr Leu Trp Tyr Gln Ser Cys Tyr His Ile  
 260 265 270  
 Glu Ser Glu Val Asp Glu Phe Leu Glu Leu Gly Pro Gly Lys Val Leu  
 275 280 285  
 Ala Gly Leu Asn Arg Ser Ile Gly Ile Ser Lys Pro Ile Thr Ser Leu  
 290 295 300  
 Gly Thr Phe Ala Gln Ile Glu Lys Phe Leu Ser Glu Val  
 305 310 315

<210> 300

<211> 342

<212> PRT

<213> Chlamydia pneumoniae

<400> 300

Tyr Thr Ser Phe Phe Leu Tyr Met Trp Phe Ser Val Asn Lys Asn Lys  
 1 5 10 15  
 Lys Ala Ala Ile Trp Ala Thr Gly Ser Tyr Leu Pro Glu Lys Val Leu  
 20 25 30  
 Ser Asn Ala Asp Leu Glu Lys Met Val Asp Thr Ser Asp Glu Trp Ile  
 35 40 45  
 Val Thr Arg Thr Gly Ile Lys Glu Arg Arg Ile Ala Gly Pro Gln Glu  
 50 55 60  
 Tyr Thr Ser Leu Met Gly Ala Ile Ala Ala Glu Lys Ala Ile Ala Asn  
 65 70 75 80  
 Ala Gly Leu Ser Lys Asp Gln Ile Asp Cys Ile Ile Phe Ser Thr Ala  
 85 90 95  
 Ala Pro Asp Tyr Ile Phe Pro Ser Ser Gly Ala Leu Ala Gln Ala His  
 100 105 110  
 Leu Gly Ile Glu Asp Val Pro Thr Phe Asp Cys Gln Ala Ala Cys Thr  
 115 120 125  
 Gly Tyr Leu Tyr Gly Leu Ser Val Ala Lys Ala Tyr Val Glu Ser Gly  
 130 135 140  
 Thr Tyr Asn His Val Leu Leu Ile Ala Ala Asp Lys Leu Ser Ser Phe  
 145 150 155 160  
 Val Asp Tyr Thr Asp Arg Asn Thr Cys Val Leu Phe Gly Asp Gly Gly  
 165 170 175  
 Ala Ala Cys Val Ile Gly Glu Ser Arg Pro Gly Ser Leu Glu Ile Asn  
 180 185 190  
 Arg Leu Ser Leu Gly Ala Asp Gly Lys Leu Gly Glu Leu Leu Ser Leu  
 195 200 205  
 Pro Ala Gly Gly Ser Arg Cys Pro Ala Ser Lys Glu Thr Leu Gln Ser  
 210 215 220  
 Gly Lys His Phe Ile Ala Met Glu Gly Lys Glu Val Phe Lys His Ala  
 225 230 235 240  
 Val Arg Arg Met Glu Thr Ala Ala Lys His Ser Ile Ala Leu Ala Gly  
 245 250 255

Ile Gln Glu Glu Asp Ile Asp Trp Phe Val Pro His Gln Ala Asn Glu  
260 265 270  
Arg Ile Ile Asp Ala Leu Ala Lys Arg Phe Glu Ile Asp Glu Ser Arg  
275 280 285  
Val Phe Lys Ser Val His Lys Tyr Gly Asn Thr Ala Ala Ser Ser Val  
290 295 300  
Gly Ile Ala Leu Asp Glu Leu Val His Thr Glu Ser Ile Lys Leu Asp  
305 310 315 320  
Asp Tyr Leu Leu Leu Val Ala Phe Gly Gly Gly Leu Ser Trp Gly Ala  
325 330 335  
Val Val Leu Lys Gln Val  
340

<210> 301

<211> 230

<212> PRT

<213> Chlamydia pneumoniae

<400> 301

Arg Lys Lys Leu Val Tyr Tyr Ser Glu Ser Leu Tyr Ser Asn Leu Asn  
1 5 10 15  
Leu Gly Pro Arg Pro Glu Cys Lys Asn Lys Ile His Ile Thr Met Thr  
20 25 30  
Arg Tyr Pro Asp Tyr Leu Ser Lys Leu Ile Phe Phe Leu Arg Lys Leu  
35 40 45  
Pro Gly Ile Gly Phe Lys Thr Ala Glu Lys Leu Ala Phe Glu Leu Ile  
50 55 60  
Ser Trp Asp Ser Glu Gln Leu Lys Ile Leu Gly Asn Ala Phe His Asn  
65 70 75 80  
Val Ala Ser Glu Arg Ser His Cys Pro Leu Cys Phe Thr Leu Lys Glu  
85 90 95  
Ser Lys Glu Ala Asp Cys His Phe Cys Arg Glu Glu Arg Asp Asn Gln  
100 105 110  
Ser Leu Cys Ile Val Ala Ser Pro Lys Asp Val Phe Phe Leu Glu Arg  
115 120 125  
Ser Lys Val Phe Lys Gly Arg Tyr His Val Leu Gly Ser Leu Leu Ser  
130 135 140  
Pro Ile Thr Gly Lys His Ile Glu Asn Glu Arg Leu Ser Ile Leu Lys  
145 150 155 160  
Ser Arg Ile Glu Thr Leu Cys Pro Lys Glu Ile Ile Leu Ala Ile Asp  
165 170 175  
Ala Thr Leu Glu Gly Asp Ala Thr Ala Leu Phe Leu Lys Gln Glu Leu  
180 185 190  
Gln His Phe Ser Val Asn Ile Ser Arg Leu Ala Leu Gly Leu Pro Ile  
195 200 205  
Gly Leu Ser Phe Asp Tyr Val Asp Ser Gly Thr Leu Ala Arg Ala Phe  
210 215 220  
Ser Gly Arg His Ser Tyr  
225 230

<210> 302

<211> 795

<212> PRT

<213> Chlamydia pneumoniae

<400> 302

Gly Arg Leu Leu Gly Met Leu Ile Met Arg Asn Lys Val Ile Leu Gln  
1 5 10 15  
Ile Ser Ile Leu Ala Leu Ile Gln Thr Pro Leu Thr Leu Phe Ser Thr  
20 25 30

Glu	Lys	Val	Lys	Glu	Gly	His	Val	Val	Val	Asp	Ser	Ile	Thr	Ile	Ile
	35						40					45			
Thr	Glu	Gly	Glu	Asn	Ala	Ser	Asn	Lys	His	Pro	Leu	Pro	Lys	Leu	Lys
	50						55				60				
Thr	Arg	Ser	Gly	Ala	Leu	Phe	Ser	Gln	Leu	Asp	Phe	Asp	Glu	Asp	Leu
65					70					75					80
Arg	Ile	Leu	Ala	Lys	Glu	Tyr	Asp	Ser	Val	Glu	Pro	Lys	Val	Glu	Phe
				85					90					95	
Ser	Glu	Gly	Lys	Thr	Asn	Ile	Ala	Leu	His	Leu	Ile	Ala	Lys	Pro	Ser
			100					105					110		
Ile	Arg	Asn	Ile	His	Ile	Ser	Gly	Asn	Gln	Val	Val	Pro	Glu	His	Lys
		115						120					125		
Ile	Leu	Lys	Thr	Leu	Gln	Ile	Tyr	Arg	Asn	Asp	Leu	Phe	Glu	Arg	Glu
	130					135					140				
Lys	Phe	Leu	Lys	Gly	Leu	Asp	Asp	Leu	Arg	Thr	Tyr	Tyr	Leu	Lys	Arg
145					150					155					160
Gly	Tyr	Phe	Ala	Ser	Ser	Val	Asp	Tyr	Ser	Leu	Glu	His	Asn	Gln	Glu
				165					170					175	
Lys	Gly	His	Ile	Asp	Val	Leu	Ile	Lys	Ile	Asn	Glu	Gly	Pro	Cys	Gly
		180						185					190		
Lys	Ile	Lys	Gln	Leu	Thr	Phe	Ser	Gly	Ile	Ser	Arg	Ser	Glu	Lys	Ser
	195						200					205			
Asp	Ile	Gln	Glu	Phe	Ile	Gln	Thr	Lys	Gln	His	Ser	Thr	Thr	Thr	Ser
	210					215					220				
Trp	Phe	Thr	Gly	Ala	Gly	Leu	Tyr	His	Pro	Asp	Ile	Val	Glu	Gln	Asp
225					230					235					240
Ser	Leu	Ala	Ile	Thr	Asn	Tyr	Leu	His	Asn	Asn	Gly	Tyr	Ala	Asp	Ala
				245					250					255	
Ile	Val	Asn	Ser	His	Tyr	Asp	Leu	Asp	Asp	Lys	Gly	Asn	Ile	Leu	Leu
		260					265						270		
Tyr	Met	Asp	Ile	Asp	Arg	Gly	Ser	Arg	Tyr	Thr	Leu	Gly	His	Val	His
	275					280					285				
Ile	Gln	Gly	Phe	Glu	Val	Leu	Pro	Lys	Arg	Leu	Ile	Glu	Lys	Gln	Ser
	290					295					300				
Gln	Val	Gly	Pro	Asn	Asp	Leu	Tyr	Cys	Pro	Asp	Lys	Ile	Trp	Asp	Gly
305					310					315					320
Ala	His	Lys	Ile	Lys	Gln	Thr	Tyr	Ala	Lys	Tyr	Gly	Tyr	Ile	Asn	Thr
				325					330					335	
Asn	Val	Asp	Val	Leu	Phe	Ile	Pro	His	Ala	Thr	Arg	Pro	Ile	Tyr	Asp
		340						345					350		
Val	Thr	Tyr	Glu	Val	Ser	Glu	Gly	Ser	Pro	Tyr	Lys	Val	Gly	Leu	Ile
	355					360						365			
Lys	Ile	Thr	Gly	Asn	Thr	His	Thr	Lys	Ser	Asp	Val	Ile	Leu	His	Glu
	370					375					380				
Thr	Ser	Leu	Phe	Pro	Gly	Asp	Thr	Phe	Asn	Arg	Leu	Lys	Leu	Glu	Asp
385					390					395					400
Thr	Glu	Gln	Arg	Leu	Arg	Asn	Thr	Gly	Tyr	Phe	Gln	Ser	Val	Ser	Val
				405					410					415	
Tyr	Thr	Val	Arg	Ser	Gln	Leu	Asp	Pro	Met	Gly	Asn	Ala	Asp	Gln	Tyr
		420						425					430		
Arg	Asp	Ile	Phe	Val	Glu	Val	Lys	Glu	Thr	Thr	Thr	Gly	Asn	Leu	Gly
	435						440					445			
Leu	Phe	Leu	Gly	Phe	Ser	Ser	Leu	Asp	Asn	Leu	Phe	Gly	Gly	Ile	Glu
	450					455				460					
Leu	Ser	Glu	Ser	Asn	Phe	Asp	Leu	Phe	Gly	Ala	Arg	Asn	Ile	Phe	Ser
465					470					475					480
Lys	Gly	Phe	Arg	Cys	Leu	Arg	Gly	Gly	Gly	Glu	His	Leu	Phe	Leu	Lys
				485					490					495	
Ala	Asn	Phe	Gly	Asp	Lys	Val	Thr	Asp	Tyr	Thr	Leu	Lys	Trp	Thr	Lys
			500					505					510		

Pro His Phe Leu Asn Thr Pro Trp Ile Leu Gly Ile Glu Leu Asp Lys  
 515 520 525  
 Ser Ile Asn Arg Ala Leu Ser Lys Asp Tyr Ala Val Gln Thr Tyr Gly  
 530 535 540  
 Gly Asn Val Ser Thr Thr Tyr Ile Leu Asn Glu His Leu Lys Tyr Gly  
 545 550 555 560  
 Leu Phe Tyr Arg Gly Ser Gln Thr Ser Leu His Glu Lys Arg Lys Phe  
 565 570 575  
 Leu Leu Gly Pro Asn Ile Asp Ser Asn Lys Gly Phe Val Ser Ala Ala  
 580 585 590  
 Gly Val Asn Leu Asn Tyr Asp Ser Val Asp Ser Pro Arg Thr Pro Thr  
 595 600 605  
 Thr Gly Ile Arg Gly Gly Val Thr Phe Glu Val Ser Gly Leu Gly Gly  
 610 615 620  
 Thr Tyr His Phe Thr Lys Leu Ser Leu Asn Ser Ser Ile Tyr Arg Lys  
 625 630 635 640  
 Leu Thr Arg Lys Gly Ile Leu Lys Ile Lys Gly Glu Ala Gln Phe Ile  
 645 650 655  
 Lys Pro Tyr Ser Asn Thr Thr Ala Glu Gly Val Pro Val Ser Glu Arg  
 660 665 670  
 Phe Phe Leu Gly Gly Glu Thr Thr Val Arg Gly Tyr Lys Ser Phe Ile  
 675 680 685  
 Ile Gly Pro Lys Tyr Ser Ala Thr Glu Pro Gln Gly Gly Leu Ser Ser  
 690 695 700  
 Leu Leu Ile Ser Glu Glu Phe Gln Tyr Pro Leu Ile Arg Gln Pro Asn  
 705 710 715 720  
 Ile Ser Ala Phe Val Phe Leu Asp Ser Gly Phe Val Gly Leu Gln Glu  
 725 730 735  
 Tyr Lys Ile Ser Leu Lys Asp Leu Arg Ser Ser Ala Gly Phe Gly Leu  
 740 745 750  
 Arg Phe Asp Val Met Asn Asn Val Pro Val Met Leu Gly Phe Gly Trp  
 755 760 765  
 Pro Phe Arg Pro Thr Glu Thr Leu Asn Gly Glu Lys Ile Asp Val Ser  
 770 775 780  
 Gln Arg Phe Phe Phe Ala Leu Gly Gly Met Phe  
 785 790 795

<210> 303

<211> 200

<212> PRT

<213> Chlamydia pneumoniae

<400> 303

Ile Lys Asp Leu Ser Lys Glu Ile Phe Val Val Phe Arg Lys Gly Phe  
 1 5 10 15  
 Trp Tyr Pro Phe Ser Ile Pro Lys Leu Val Gln Val Ile Met Lys Lys  
 20 25 30  
 Leu Leu Phe Ser Thr Phe Leu Leu Val Leu Gly Ser Thr Ser Ala Ala  
 35 40 45  
 His Ala Asn Leu Gly Tyr Val Asn Leu Lys Arg Cys Leu Glu Glu Ser  
 50 55 60  
 Asp Leu Gly Lys Lys Glu Thr Glu Glu Leu Glu Ala Met Lys Gln Gln  
 65 70 75 80  
 Phe Val Lys Asn Ala Glu Lys Ile Glu Glu Glu Leu Thr Ser Ile Tyr  
 85 90 95  
 Asn Lys Leu Gln Asp Glu Asp Tyr Met Glu Ser Leu Ser Asp Ser Ala  
 100 105 110  
 Ser Glu Glu Leu Arg Lys Lys Phe Glu Asp Leu Ser Gly Glu Tyr Asn  
 115 120 125  
 Ala Tyr Gln Ser Gln Tyr Tyr Gln Ser Ile Asn Gln Ser Asn Val Lys  
 130 135 140

Arg Ile Gln Lys Leu Ile Gln Glu Val Lys Ile Ala Ala Glu Ser Val  
 145 150 155 160  
 Arg Ser Lys Glu Lys Leu Glu Ala Ile Leu Asn Glu Glu Ala Val Leu  
 165 170 175  
 Ala Ile Ala Pro Gly Thr Asp Lys Thr Thr Glu Ile Ile Ala Ile Leu  
 180 185 190  
 Asn Glu Ser Phe Lys Lys Gln Asn  
 195 200

<210> 304  
 <211> 367  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 304  
 Ser Lys Phe Lys Glu Phe Ser Met Ser Glu Ala Pro Val Tyr Thr Leu  
 1 5 10 15  
 Lys Gln Leu Ala Glu Leu Leu Gln Val Glu Val Gln Gly Asn Ile Glu  
 20 25 30  
 Thr Pro Ile Ser Gly Val Glu Asp Ile Ser Gln Ala Gln Pro His His  
 35 40 45  
 Ile Ala Phe Leu Asp Asn Glu Lys Tyr Ser Ser Phe Leu Lys Asn Thr  
 50 55 60  
 Lys Ala Gly Ala Ile Ile Leu Ser Arg Ser Gln Ala Met Gln His Ala  
 65 70 75 80  
 His Leu Lys Lys Asn Phe Leu Ile Thr Asn Glu Ser Pro Ser Leu Thr  
 85 90 95  
 Phe Gln Lys Cys Ile Glu Leu Phe Ile Glu Pro Val Thr Ser Gly Phe  
 100 105 110  
 Pro Gly Ile His Pro Thr Ala Val Ile His Pro Thr Ala Arg Ile Glu  
 115 120 125  
 Lys Asn Val Thr Ile Glu Pro Tyr Val Val Ile Ser Gln His Ala His  
 130 135 140  
 Ile Gly Ser Asp Thr Tyr Ile Gly Ala Gly Ser Val Ile Gly Ala His  
 145 150 155 160  
 Ser Val Leu Gly Ala Asn Cys Leu Ile His Pro Lys Val Val Ile Arg  
 165 170 175  
 Glu Arg Val Leu Met Gly Asn Arg Val Val Val Gln Pro Gly Ala Val  
 180 185 190  
 Leu Gly Ser Cys Gly Phe Gly Tyr Ile Thr Asn Ala Phe Gly His His  
 195 200 205  
 Lys Pro Leu Lys His Leu Gly Tyr Val Ile Val Gly Asp Asp Val Glu  
 210 215 220  
 Ile Gly Ala Asn Thr Thr Ile Asp Arg Gly Arg Phe Lys Asn Thr Val  
 225 230 235 240  
 Ile His Glu Gly Thr Lys Ile Asp Asn Gln Val Gln Val Ala His His  
 245 250 255  
 Val Glu Ile Gly Lys His Ser Ile Ile Val Ala Gln Ala Gly Ile Ala  
 260 265 270  
 Gly Ser Thr Lys Ile Gly Glu His Val Ile Ile Gly Gly Gln Thr Gly  
 275 280 285  
 Ile Thr Gly His Ile Ser Ile Ala Asp His Val Ile Met Ile Ala Gln  
 290 295 300  
 Thr Gly Val Thr Lys Ser Ile Thr Ser Pro Gly Ile Tyr Gly Gly Ala  
 305 310 315 320  
 Pro Ala Arg Pro Tyr Gln Glu Thr His Arg Leu Ile Ala Lys Ile Arg  
 325 330 335  
 Asn Leu Pro Lys Thr Glu Glu Arg Leu Ser Lys Leu Glu Lys Gln Val  
 340 345 350  
 Arg Asp Leu Ser Thr Pro Ser Leu Ala Glu Ile Pro Ser Glu Ile  
 355 360 365

<210> 305  
 <211> 354  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 305  
 Arg Glu Gln Lys Gly Leu His His Met Asp Val Ser Arg Lys Ile Asn  
 1 5 10 15  
 Arg His Thr Gln Phe Tyr Val Asp Ser Ile Asp Gly Val Ile Lys Asn  
 20 25 30  
 Phe Asp His Lys Pro Ser Glu Asp Lys Ser Arg Asp His Glu Glu Leu  
 35 40 45  
 Glu Glu Lys Leu Leu Thr Ile Thr Lys Arg Ile Val Ala Ser Ala Gln  
 50 55 60  
 Glu Phe Gln Asn Arg Lys Thr Asp Ser Lys Asn Tyr Tyr Leu Lys Lys  
 65 70 75 80  
 Thr Gln Trp Leu Pro Phe Lys Asn Glu Glu Leu Glu Gln Thr Lys Glu  
 85 90 95  
 Leu Phe Ala Met Leu Thr Ser Met Asp Lys Lys Ile Ala Gln Leu Phe  
 100 105 110  
 Phe Tyr Ser Pro Gly Cys Ser Ser Asp Trp Val Glu Phe Thr Glu Val  
 115 120 125  
 Ile Cys His Leu Asn Asp Ser Ile Gly Leu Gly Gly Val Leu Leu Cys  
 130 135 140  
 Cys Gly Leu Phe Glu Gln Gln Cys Glu His Val Val Thr Val Asn Lys  
 145 150 155 160  
 Lys Leu Asp Leu Pro Leu Leu Leu Gly Thr Thr Val Val Asn Ser Leu  
 165 170 175  
 Arg Tyr Tyr Leu Thr Tyr Arg Asn Ile Ser Leu Leu Asn Cys Gln Ser  
 180 185 190  
 Met Ser Glu Leu Gly Lys Glu Leu Gly Asp Val Leu Lys Gln His Gly  
 195 200 205  
 Val Ala Phe Thr Leu Ile Phe Lys Glu Ile Val Asp Ile Asp Leu Leu  
 210 215 220  
 Asn Tyr Val Lys Leu Ile Gln Gly Leu Lys Arg Ser Gly Asn Ile Gln  
 225 230 235 240  
 Ala Arg Ile Tyr Asp Asn Asp Val Pro Thr Leu Pro Ser Val Ser Ser  
 245 250 255  
 Ser Pro Ile Ala Leu Arg Tyr Ser Leu Ala Asn Thr Ile Arg Gly Leu  
 260 265 270  
 Ala Leu His Val Asp Phe Ser Ser Leu Lys Phe Ile Ser Pro Ser Ile  
 275 280 285  
 Leu Ser Asn Thr Glu His Thr Ala Lys Ala Leu Asn Ser Gly Gly Glu  
 290 295 300  
 Cys Phe Ile Phe Ser Asn Leu Asp Glu Phe Asn Leu Gly Met Lys Ile  
 305 310 315 320  
 Val Met Gln Leu Leu Arg Thr Gly Lys Ile Ser Pro Glu Ile Leu Asn  
 325 330 335  
 Lys Asn Ile Met Lys Ile Leu Met Ile Lys Arg Arg Val Arg Ser Leu  
 340 345 350  
 Tyr Ile

<210> 306  
 <211> 356  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 306  
 Asp Gln Lys Pro Leu Pro Lys Arg Leu Pro Tyr Lys Lys Val Met Asp  
 1 5 10 15

Ser Ser Ala Pro Tyr Asn Ile Ala Ser Gln Gly Thr Glu Lys Ser Thr  
                   20                  25                  30  
 Val Glu Arg Ile Leu Asp Leu Tyr Gly Pro Ala Ser Cys Ile Lys Phe  
                   35                  40                  45  
 Leu Lys Gln Met Val Leu Ile Arg Glu Phe Glu Ala Arg Gly Glu Glu  
                   50                  55                  60  
 Ala Tyr Leu Glu Gly Leu Val Gly Gly Phe Tyr His Ser Tyr Ala Gly  
 65                  70                  75                  80  
 Gln Glu Ala Val Ala Thr Ala Ala Ile Ala Asn Thr Gly Leu Asp Pro  
                   85                  90                  95  
 Trp Val Phe Ser Ser Tyr Arg Cys His Ala Leu Ala Ile Leu Leu Asn  
                   100                  105                  110  
 Ile Pro Leu Gln Glu Ile Ala Ala Glu Leu Leu Gly Lys Glu Thr Gly  
                   115                  120                  125  
 Cys Ala Leu Gly Arg Gly Gly Ser Met His Met Cys Gly Pro Asn Phe  
                   130                  135                  140  
 Pro Gly Gly Phe Gly Ile Val Gly Gly Gln Ile Pro Leu Ala Ala Gly  
 145                  150                  155                  160  
 Ala Ala Phe Thr Ile Lys Tyr Gln Glu Gln Lys Asn Arg Val Ser Leu  
                   165                  170                  175  
 Cys Phe Ile Gly Asp Gly Ala Val Ala Gln Gly Val Phe His Glu Thr  
                   180                  185                  190  
 Leu Asn Phe Val Ser Leu His Gln Leu Pro Leu Met Leu Ile Ile Glu  
                   195                  200                  205  
 Asn Asn Gly Trp Ser Met Gly Thr Ser Leu Asn Arg Ala Val Ala Lys  
                   210                  215                  220  
 Gln Pro Ile Ala Glu Ser Gln Gly Ser Ser Tyr Asp Ile Arg Ala Val  
 225                  230                  235                  240  
 Thr Val Asn Gly Phe Asp Leu Phe Asn Ser Leu Leu Gly Phe Arg Glu  
                   245                  250                  255  
 Ala Tyr Arg Tyr Met Val Asp Thr Glu Ser Pro Val Leu Val Glu Cys  
                   260                  265                  270  
 Leu Cys Ser Arg Phe Arg Gly His Ser Ile Ser Asp Pro Asn Leu Tyr  
                   275                  280                  285  
 Arg Ser Lys Glu Glu Met Gln Cys Leu Phe Lys Lys Asp Pro Ile Val  
                   290                  295                  300  
 Leu Ala Lys Asp Trp Leu Ile Arg Leu Glu Val Leu Thr Glu Glu Glu  
 305                  310                  315                  320  
 Phe Gln Asn Ile Arg Gln Glu Cys Lys Thr Ala Val Leu Glu Ala Phe  
                   325                  330                  335  
 Ser Asn Ala Lys Leu Ser Ser Asp Pro Ser Val Thr Thr Leu Glu Glu  
                   340                  345                  350  
 Gly Val Tyr Ala  
                   355

<210> 307

<211> 332

<212> PRT

<213> Chlamydia pneumoniae

<400> 307

Arg Lys Glu Ser Met Pro Lys His Lys Thr Leu Glu Ile Arg Glu Ala  
   1                  5                  10                  15  
 Leu Arg Glu Ala Ile Asp Glu Glu Met Ser Arg Asp Pro Asn Val Cys  
                   20                  25                  30  
 Ile Leu Gly Glu Glu Val Gly Asp Tyr Asn Gly Ala Tyr Lys Val Thr  
                   35                  40                  45  
 Lys Gly Leu Leu Asp Lys Trp Gly Pro Lys Arg Val Ile Asp Ala Pro  
                   50                  55                  60  
 Ile Ser Glu Ala Ala Phe Ser Gly Ile Gly Ile Gly Ala Ala Leu Ser  
 65                  70                  75                  80

Gly	Leu	Arg	Pro	Ile	Ile	Glu	Phe	Met	Ser	Trp	Asn	Phe	Ser	Phe	Val
				85					90					95	
Ala	Leu	Asp	Gln	Ile	Ile	Ser	His	Ala	Ala	Lys	Met	His	Phe	Met	Thr
			100					105					110		
Gly	Gly	Lys	Phe	Ser	Val	Pro	Ile	Val	Phe	Arg	Gly	Pro	Asn	Gly	Ala
		115					120					125			
Ala	Ala	Gln	Val	Ser	Cys	Gln	His	Ser	His	Cys	Val	Glu	Ser	Leu	Tyr
	130					135					140				
Ala	Asn	Ile	Pro	Gly	Leu	Ile	Ile	Ile	Ala	Pro	Ser	Asn	Pro	Tyr	Asp
145					150					155					160
Ala	Lys	Gly	Leu	Leu	Lys	Ser	Ala	Ile	Arg	Asn	Asn	Asn	Pro	Val	Leu
			165						170					175	
Phe	Leu	Glu	Asn	Glu	Leu	Glu	Tyr	Asn	Leu	Lys	Gly	Glu	Val	Pro	Thr
			180					185					190		
Glu	Glu	Tyr	Leu	Val	Pro	Ile	Gly	Lys	Ala	His	Arg	Val	Gln	Glu	Gly
	195						200					205			
Asn	Asp	Leu	Thr	Ile	Ile	Thr	Tyr	Ser	Arg	Met	Val	Ser	Ile	Thr	Lys
	210					215					220				
Glu	Ala	Cys	Ser	Leu	Ala	Lys	Lys	Arg	Trp	Gly	Leu	Ser	Ile	Glu	Ile
225				230						235					240
Ile	Asp	Leu	Arg	Thr	Ile	Lys	Pro	Leu	Asp	Ile	Ser	Thr	Ile	Leu	Ser
			245						250					255	
Ser	Val	Arg	Lys	Thr	Ser	Arg	Cys	Ile	Val	Ile	Glu	Glu	Gly	His	Tyr
		260					265						270		
Phe	Ala	Gly	Ile	Ser	Ser	Glu	Ile	Ile	Ala	Leu	Ile	Thr	Glu	His	Val
	275						280						285		
Phe	Asp	Ser	Leu	Asp	Ala	Pro	Pro	Leu	Arg	Val	Cys	Gln	Lys	Glu	Thr
	290					295					300				
Pro	Met	Pro	Tyr	Ser	Lys	Ile	Leu	Glu	Gln	Ala	Thr	Leu	Pro	Asn	Val
305				310						315					320
Asn	Arg	Ile	Leu	Asp	Thr	Ile	Glu	Lys	Val	Met	Arg				
			325						330						

<210> 308

<211> 432

<212> PRT

<213> Chlamydia pneumoniae

<400> 308

Gly	Lys	Phe	Val	Ile	Ser	Leu	Leu	Lys	Met	Pro	Lys	Leu	Ser	Pro	Thr
1				5					10					15	
Met	Glu	Val	Gly	Thr	Ile	Val	Lys	Trp	His	Lys	Lys	Ser	Asn	Asp	Gln
			20					25					30		
Val	Ser	Phe	Gly	Asp	Val	Ile	Val	Glu	Ile	Ser	Thr	Asp	Lys	Ala	Ile
		35					40					45			
Leu	Glu	His	Thr	Ala	Asn	Glu	Asp	Gly	Trp	Ile	Arg	Glu	Ile	Leu	Arg
	50					55					60				
His	Glu	Gly	Glu	Lys	Ile	Val	Ile	Gly	Thr	Pro	Ile	Ala	Val	Leu	Ser
65				70						75					80
Thr	Glu	Ala	Asn	Glu	Pro	Phe	Asn	Leu	Glu	Glu	Leu	Leu	Pro	Lys	Thr
			85						90					95	
Glu	Pro	Ser	Asn	Leu	Glu	Ala	Ser	Pro	Lys	Gly	Ser	Ser	Glu	Glu	Val
			100					105					110		
Ser	Pro	Ala	Thr	Thr	Pro	Gln	Ala	Ala	Ser	Ala	Thr	Phe	Thr	Ala	Val
		115					120					125			
Thr	Phe	Lys	Pro	Glu	Pro	Pro	Leu	Ser	Ser	Pro	Leu	Val	Phe	Lys	His
	130					135					140				
Val	Gly	Thr	Thr	Asn	Asn	Leu	Ser	Pro	Leu	Ala	Arg	Gln	Leu	Ala	Lys
145				150						155					160
Glu	Lys	Asn	Ile	Asp	Val	Ser	Ser	Ile	Gln	Gly	Ser	Gly	Pro	Gly	Gly
			165						170					175	



Arg	Ile	Val	Lys	Lys	Asp	Leu	Glu	Lys	Ala	Pro	Pro	Lys	Ser	Ile	Ala	
			180					185					190			
Gly	Phe	Gly	Tyr	Pro	Glu	Ser	Pro	Glu	Val	Pro	Pro	Gly	Ser	Tyr	His	
		195					200					205				
Glu	Glu	Asn	Leu	Ser	Pro	Ile	Arg	Glu	Val	Ile	Ala	Ala	Arg	Leu	Gln	
	210					215					220					
Ala	Ala	Lys	Ile	Ser	Ile	Pro	His	Phe	Tyr	Val	Arg	Gln	Gln	Val	Tyr	
225					230					235					240	
Ala	Ser	Pro	Leu	Leu	Asn	Leu	Leu	Lys	Glu	Leu	Gln	Ala	Gln	Gly	Ile	
			245					250						255		
Lys	Leu	Ser	Ile	Asn	Asp	Cys	Ile	Val	Arg	Ala	Cys	Ala	Leu	Ala	Leu	
		260						265					270			
Lys	Glu	Phe	Pro	Ser	Ile	Asn	Ser	Gly	Phe	Asn	Ser	Val	Asp	Asn	Lys	
		275					280					285				
Ile	Val	Arg	Phe	Asp	Thr	Ile	Asp	Ile	Ser	Ile	Ala	Val	Ala	Ile	Pro	
	290				295						300					
Asp	Gly	Ile	Ile	Thr	Pro	Ile	Ile	Arg	Cys	Ala	Asp	Arg	Lys	Asn	Leu	
305					310					315					320	
Gly	Met	Ile	Ser	Ala	Glu	Ile	Lys	Ser	Leu	Ala	Leu	Lys	Ala	Arg	Asn	
			325						330					335		
Gln	Ser	Leu	Gln	Asp	Thr	Glu	Tyr	Lys	Gly	Gly	Ser	Phe	Cys	Val	Ser	
			340					345					350			
Asn	Leu	Gly	Met	Thr	Gly	Ile	Thr	Glu	Phe	Thr	Ala	Ile	Val	Asn	Pro	
	355						360					365				
Pro	Gln	Ala	Ala	Ile	Leu	Ala	Val	Gly	Ser	Val	Thr	Glu	Gln	Ala	Leu	
	370					375					380					
Val	Leu	Asp	Gly	Glu	Ile	Thr	Ile	Gly	Ser	Thr	Cys	Asn	Leu	Thr	Leu	
385					390					395					400	
Ser	Val	Asp	His	Arg	Val	Ile	Asp	Gly	Tyr	Pro	Ala	Ala	Met	Phe	Met	
			405					410					415			
Lys	Arg	Leu	Gln	Lys	Ile	Leu	Glu	Ala	Pro	Ala	Val	Leu	Leu	Leu	Asn	
			420					425					430			

<210> 309

<211> 828

<212> PRT

<213> Chlamydia pneumoniae

<400> 309

Asn	Gly	Cys	Ile	Val	Glu	Asp	Phe	Ser	Ser	Phe	Asp	Lys	Asn	Lys	Val	
1				5					10					15		
Ser	Val	Asp	Ser	Met	Lys	Arg	Ala	Ile	Leu	Asp	Arg	Leu	Tyr	Leu	Ser	
			20					25					30			
Val	Val	Gln	Ser	Pro	Glu	Ser	Ala	Ser	Pro	Arg	Asp	Ile	Phe	Thr	Ala	
		35					40					45				
Val	Ala	Lys	Thr	Val	Met	Glu	Trp	Leu	Ala	Lys	Gly	Trp	Leu	Lys	Thr	
	50					55					60					
Gln	Asn	Gly	Tyr	Tyr	Lys	Asn	Asp	Val	Lys	Arg	Val	Tyr	Tyr	Leu	Ser	
65					70					75				80		
Met	Glu	Phe	Leu	Leu	Gly	Arg	Ser	Leu	Lys	Ser	Asn	Leu	Leu	Asn	Leu	
			85						90					95		
Gly	Ile	Leu	Asp	Leu	Val	Arg	Lys	Ala	Leu	Lys	Thr	Leu	Asn	Tyr	Asp	
			100					105					110			
Phe	Asp	His	Leu	Val	Glu	Met	Glu	Ser	Asp	Ala	Gly	Leu	Gly	Asn	Gly	
		115					120					125				
Gly	Leu	Gly	Arg	Leu	Ala	Ala	Cys	Tyr	Leu	Asp	Ser	Met	Ala	Thr	Leu	
	130					135					140					
Ala	Val	Pro	Ala	Tyr	Gly	Tyr	Gly	Ile	Arg	Tyr	Asp	Tyr	Gly	Ile	Phe	
145					150					155					160	
Asp	Gln	Arg	Ile	Val	Asn	Gly	Tyr	Gln	Glu	Glu	Ala	Pro	Asp	Glu	Trp	
				165					170					175		

Leu Arg Tyr Gly Asn Pro Trp Glu Ile Cys Arg Gly Glu Tyr Leu Tyr  
 180 185 190  
 Pro Val Arg Phe Tyr Gly Arg Val Ile His Tyr Thr Asp Ser Arg Gly  
 195 200 205  
 Lys Gln Val Ala Asp Leu Val Asp Thr Gln Glu Val Leu Ala Met Ala  
 210 215 220  
 Tyr Asp Ile Pro Ile Pro Gly Tyr Gly Asn Asp Thr Val Asn Ser Leu  
 225 230 235 240  
 Arg Leu Trp Gln Ala Gln Ser Pro Arg Gly Phe Glu Phe Ser Tyr Phe  
 245 250 255  
 Asn His Gly Asn Tyr Ile Gln Ala Ile Glu Asp Ile Ala Leu Ile Glu  
 260 265 270  
 Asn Ile Ser Arg Val Leu Tyr Pro Asn Asp Ser Ile Thr Glu Gly Gln  
 275 280 285  
 Glu Leu Arg Leu Lys Gln Glu Tyr Phe Leu Val Ser Ala Thr Ile Gln  
 290 295 300  
 Asp Ile Ile Arg Arg Tyr Thr Lys Thr His Ile Cys Leu Asp Asn Leu  
 305 310 315 320  
 Ala Asp Lys Val Val Val Gln Leu Asn Asp Thr His Pro Ala Leu Gly  
 325 330 335  
 Ile Ala Glu Met Met His Ile Leu Val Asp Arg Glu Glu Leu Pro Trp  
 340 345 350  
 Asp Lys Ala Trp Glu Met Thr Thr Val Ile Phe Asn Tyr Thr Asn His  
 355 360 365  
 Thr Ile Leu Pro Glu Ala Leu Glu Arg Trp Pro Leu Asp Leu Phe Ser  
 370 375 380  
 Lys Leu Leu Pro Arg His Leu Glu Ile Ile Tyr Glu Ile Asn Ser Arg  
 385 390 395 400  
 Trp Leu Glu Lys Val Gly Ser Arg Tyr Pro Lys Asn Asp Asp Lys Arg  
 405 410 415  
 Arg Ser Leu Ser Ile Val Glu Glu Gly Tyr Gln Lys Arg Ile Asn Met  
 420 425 430  
 Ala Asn Leu Ala Val Val Gly Ser Ala Lys Val Asn Gly Val Ser Ser  
 435 440 445  
 Phe His Ser Gln Leu Ile Lys Asp Thr Leu Phe Lys Glu Phe Tyr Glu  
 450 455 460  
 Phe Phe Pro Glu Lys Phe Ile Asn Val Thr Asn Gly Val Thr Pro Arg  
 465 470 475 480  
 Arg Trp Ile Ala Leu Cys Asn Pro Arg Leu Ser Lys Leu Leu Asn Glu  
 485 490 495  
 Thr Ile Gly Asp Arg Tyr Ile Ile Asp Leu Ser His Leu Ser Leu Ile  
 500 505 510  
 Arg Ser Phe Ala Glu Asp Ser Gly Phe Arg Asp His Trp Lys Gly Val  
 515 520 525  
 Lys Leu Lys Asn Lys Gln Asp Leu Thr Ser Arg Ile Tyr Asn Glu Val  
 530 535 540  
 Gly Glu Ile Val Asp Pro Asn Ser Leu Phe Asp Cys His Ile Lys Arg  
 545 550 555 560  
 Ile His Glu Tyr Lys Arg Gln Leu Met Asn Ile Leu Arg Val Ile Tyr  
 565 570 575  
 Val Tyr Asn Asp Leu Lys Glu Asn Pro Asn Gln Asp Val Val Pro Thr  
 580 585 590  
 Thr Val Ile Phe Ser Gly Lys Ala Ala Pro Gly Tyr Val Met Ala Lys  
 595 600 605  
 Leu Ile Ile Lys Leu Ile Asn Ser Val Ala Asp Val Val Asn Gln Asp  
 610 615 620  
 Ser Arg Val Asn Asp Lys Leu Lys Val Leu Phe Leu Pro Asn Tyr Arg  
 625 630 635 640  
 Val Ser Met Ala Glu His Ile Ile Pro Gly Thr Asp Leu Ser Glu Gln  
 645 650 655

Ile Ser Thr Ala Gly Met Glu Ala Ser Gly Thr Gly Asn Met Lys Phe  
                   660                  665                  670  
 Ala Leu Asn Gly Ala Leu Thr Ile Gly Thr Met Asp Gly Ala Asn Ile  
                   675                  680                  685  
 Glu Met Ala Glu His Ile Gly Lys Glu Asn Met Phe Ile Phe Gly Leu  
                   690                  695                  700  
 Leu Glu Glu Gln Ile Val Gln Leu Arg Arg Glu Tyr Cys Pro Gln Thr  
 705                  710                  715                  720  
 Ile Cys Asp Lys Asn Pro Lys Ile Arg Gln Val Leu Asp Leu Leu Glu  
                   725                  730                  735  
 Gln Gly Phe Phe Asn Ser Asn Asp Lys Asp Leu Phe Lys Pro Ile Val  
                   740                  745                  750  
 His Arg Leu Leu His Glu Gly Asp Pro Phe Phe Val Leu Ala Asp Leu  
                   755                  760                  765  
 Glu Ser Tyr Ile Ala Ala His Glu Asn Val Asn Lys Leu Phe Lys Glu  
                   770                  775                  780  
 Pro Asp Ser Trp Thr Lys Ile Ser Ile Tyr Asn Thr Ala Gly Met Gly  
 785                  790                  795                  800  
 Phe Phe Ser Ser Asp Arg Ala Ile Gln Asp Tyr Ala Arg Asp Ile Trp  
                   805                  810                  815  
 His Val Pro Thr Lys Ser Cys Ser Gly Glu Gly Asn  
                   820                  825

<210> 310  
 <211> 128  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 310  
 Phe Phe Thr Gln Glu Asn Asn Met Ala Thr Val Ala Gln Thr Pro Gln  
 1                  5                  10                  15  
 Thr Thr Gln Pro Gln Pro Ser Val Ser His Lys Ala Thr His Arg Tyr  
                   20                  25                  30  
 Cys Ser Trp Val Phe Phe Lys Pro Ile Leu Val Ser Leu Gly Leu Leu  
                   35                  40                  45  
 Leu Ala Ser Leu Thr Thr Leu Gly Leu Val Ile Ala Ser Gly Val Thr  
                   50                  55                  60  
 Leu Ser Leu Gly Ile Gly Ile Val Leu Ala Ile Gln Ile Val Leu Ala  
 65                  70                  75                  80  
 Gly Ile Ala Leu Val Leu Ala Phe Asn His Ile Arg Gln Phe Lys Gln  
                   85                  90                  95  
 Ala Arg Thr Ala Glu Leu Asn Ser Met Lys Met Ile Ser Ala Pro Ala  
                   100                  105                  110  
 Ala Ala Thr Val Gln Lys Gln Lys Leu Glu Asp Arg Tyr Ser Ser Lys  
                   115                  120                  125

<210> 311  
 <211> 461  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 311  
 Phe Met Arg Ala Trp Glu Glu Phe Leu Leu Leu Gln Glu Lys Glu Ile  
 1                  5                  10                  15  
 Gly Thr Asn Thr Val Asp Lys Trp Leu Arg Ser Leu Lys Val Leu Cys  
                   20                  25                  30  
 Phe Asp Ala Cys Asn Leu Tyr Leu Glu Ala Gln Asp Ser Phe Gln Ile  
                   35                  40                  45  
 Thr Trp Phe Glu Glu His Ile Arg His Lys Val Lys Ser Gly Leu Val  
                   50                  55                  60

Asn	Asn	Asn	Asn	Lys	Pro	Ile	Arg	Val	His	Val	Thr	Ser	Val	Asp	Lys
65					70					75					80
Ala	Ala	Pro	Phe	Tyr	Lys	Glu	Lys	Gln	Met	Gln	Gln	Glu	Lys	Thr	Ala
				85					90					95	
Tyr	Phe	Thr	Met	His	Tyr	Gly	Ser	Val	Asn	Pro	Glu	Met	Thr	Phe	Ser
			100					105					110		
Asn	Phe	Leu	Val	Thr	Pro	Glu	Asn	Asp	Leu	Pro	Phe	Arg	Val	Leu	Gln
			115				120					125			
Glu	Phe	Thr	Lys	Ser	Pro	Asp	Glu	Asn	Gly	Gly	Val	Thr	Phe	Asn	Pro
			130			135					140				
Ile	Tyr	Leu	Phe	Gly	Pro	Glu	Gly	Ser	Gly	Lys	Thr	His	Leu	Met	Gln
145					150					155					160
Ser	Ala	Ile	Ser	Val	Leu	Arg	Glu	Ser	Gly	Gly	Lys	Ile	Leu	Tyr	Val
				165					170					175	
Ser	Ser	Asp	Leu	Phe	Thr	Glu	His	Leu	Val	Ser	Ala	Ile	Arg	Ser	Gly
			180					185					190		
Glu	Met	Gln	Lys	Phe	Arg	Ser	Phe	Tyr	Arg	Asn	Ile	Asp	Ala	Leu	Phe
			195				200					205			
Ile	Glu	Asp	Ile	Glu	Val	Phe	Ser	Gly	Lys	Ser	Ala	Thr	Gln	Glu	Glu
			210			215					220				
Phe	Phe	His	Thr	Phe	Asn	Ser	Leu	His	Ser	Glu	Gly	Lys	Leu	Ile	Val
225					230					235					240
Val	Ser	Ser	Ser	Tyr	Ala	Pro	Val	Asp	Leu	Val	Ala	Val	Glu	Asp	Arg
				245					250					255	
Leu	Ile	Ser	Arg	Phe	Glu	Trp	Gly	Val	Ala	Ile	Pro	Ile	His	Pro	Leu
			260					265					270		
Val	Gln	Glu	Gly	Leu	Arg	Ser	Phe	Leu	Met	Arg	Gln	Val	Glu	Arg	Leu
			275				280					285			
Ser	Ile	Arg	Ile	Gln	Glu	Thr	Ala	Leu	Asp	Phe	Leu	Ile	Tyr	Ala	Leu
			290			295				300					
Ser	Ser	Asn	Val	Lys	Thr	Leu	Leu	His	Ala	Leu	Asn	Leu	Leu	Ala	Lys
305				310					315						320
Arg	Val	Met	Tyr	Lys	Lys	Leu	Ser	His	Gln	Leu	Leu	Tyr	Glu	Asp	Asp
				325					330					335	
Val	Lys	Thr	Leu	Leu	Lys	Asp	Val	Leu	Glu	Ala	Ala	Gly	Ser	Val	Arg
			340					345					350		
Leu	Thr	Pro	Leu	Lys	Ile	Ile	Arg	Asn	Val	Ala	Gln	Tyr	Tyr	Gly	Val
			355				360					365			
Ser	Gln	Glu	Ser	Ile	Leu	Gly	Arg	Ser	Gln	Ser	Arg	Glu	Tyr	Val	Leu
			370			375					380				
Pro	Arg	Gln	Val	Ala	Met	Tyr	Phe	Cys	Arg	Gln	Lys	Leu	Ser	Leu	Ser
385				390					395						400
Tyr	Val	Arg	Ile	Gly	Asp	Val	Phe	Ser	Arg	Asp	His	Ser	Thr	Val	Ile
			405						410					415	
Ser	Ser	Ile	Arg	Leu	Ile	Glu	Gln	Lys	Ile	Glu	Glu	Asn	Ser	His	Asp
			420				425					430			
Ile	His	Met	Ala	Ile	Gln	Asp	Ile	Ser	Lys	Asn	Leu	Asn	Ser	Leu	His
		435				440					445				
Lys	Ser	Leu	Glu	Phe	Phe	Pro	Ser	Glu	Glu	Met	Ile	Ile			
			450			455					460				

<210> 312

<211> 808

<212> PRT

<213> Chlamydia pneumoniae

<400> 312

Tyr	Phe	Asp	Leu	Leu	Ser	Leu	Ile	Phe	Arg	Val	Tyr	Gln	Met	Asn	Lys
1				5				10						15	
Arg	Thr	Leu	Leu	Phe	Val	Ser	Leu	Ile	Gly	Ile	Ala	Phe	Val	Gly	Cys
			20					25					30		

Gln	Ile	Phe	Phe	Gly	Tyr	Asn	Glu	Phe	Arg	Ser	Cys	Lys	Asn	Leu	Ala		
		35					40					45					
Glu	Lys	Gln	Arg	Lys	Ile	Ser	Glu	Gln	Thr	Leu	Ala	Ala	Val	Glu	Ser		
	50					55					60						
Val	Gly	Leu	Ser	Val	Ala	Ser	Trp	Asp	Thr	Asp	Val	Asn	Gly	Glu	Glu		
65					70				75					80			
His	Lys	Asn	Asn	Tyr	Ala	Val	Arg	Val	Gly	Asp	Lys	Leu	Phe	Leu	Leu		
				85					90					95			
His	Asn	Gly	Glu	Ala	Ala	Gln	Ser	Val	Tyr	Ser	Ser	Gly	Glu	Ser	Trp		
			100					105						110			
Ser	Phe	Val	Asp	His	Lys	Cys	Gly	Phe	Asp	Asn	Ile	His	Leu	Ala	Leu		
		115					120					125					
Tyr	Arg	Gln	Gln	Gly	Ser	Ser	Phe	Asn	Pro	Thr	Asn	Thr	Gly	Lys	Val		
	130					135					140						
Phe	Leu	Pro	Thr	Asn	His	Glu	Gly	Leu	Pro	Val	Leu	Val	Val	Glu	Phe		
145					150					155				160			
Arg	Asn	Asn	Lys	Glu	Pro	Leu	Val	Phe	Leu	Gly	Glu	Tyr	Ala	Gln	Gly		
			165						170					175			
Arg	Ile	Ser	Asn	Lys	Asp	Ser	Thr	Ile	Phe	Gly	Thr	Ala	Leu	Val	Phe		
			180					185						190			
Trp	Arg	Ser	Gly	Ser	Asp	Tyr	Ile	Pro	Leu	Gly	Leu	Tyr	Asp	Ser	Arg		
	195					200						205					
Glu	Glu	Lys	Leu	Val	Ser	Leu	Asp	Leu	Pro	Ile	Thr	Arg	Ala	Val	Ile		
	210					215					220						
Phe	Gly	Asn	Asp	Gln	Asp	Ser	Ala	Lys	Ser	Ser	Asp	Thr	Ala	Asn	His		
225					230					235					240		
Tyr	Val	Leu	Phe	Asn	Asp	Tyr	Met	Gln	Ile	Ile	Val	Ser	Glu	Glu	Ser		
			245					250						255			
Gly	Ser	Ile	Glu	Gly	Ile	Asn	Leu	Pro	Phe	Ala	Ser	Thr	Asn	Asn	Lys		
		260					265						270				
Ser	Ile	Val	Asn	Glu	Ile	Gly	Phe	Asp	Arg	Asp	Leu	Ala	Ser	Glu	Lys		
	275					280						285					
Ser	Pro	Glu	Ala	Leu	Phe	Pro	Gly	Leu	Ser	Ser	Lys	Leu	Pro	Asp	Gly		
	290					295					300						
Gln	Gln	Ala	Lys	Asn	Ser	Ile	Gly	Gly	Tyr	Tyr	Pro	Leu	Leu	Arg	Arg		
305					310					315				320			
Gly	Leu	Leu	Ser	Asp	Ser	Lys	Lys	Leu	Leu	Pro	Leu	Glu	Tyr	His	Ala		
			325						330					335			
Leu	Asn	Val	Val	Ser	Gly	Arg	Glu	Leu	Ala	Thr	Pro	Val	Ala	Leu	Arg		
		340					345						350				
Tyr	Arg	Val	Leu	Ser	Tyr	Thr	Pro	His	Ser	Ile	Gln	Leu	Glu	Ser	Leu		
	355					360						365					
Asp	Arg	Ser	Val	Gln	Lys	Val	Tyr	Lys	Leu	Pro	Glu	Asn	Pro	Glu	Glu		
	370					375					380						
Lys	Pro	Tyr	Val	Phe	Glu	Thr	Ala	Ile	Thr	Leu	Thr	Lys	Glu	Thr	Glu		
385					390					395				400			
Asp	Val	Trp	Val	Thr	Ser	Gly	Val	Pro	Glu	Val	Glu	Ile	Met	Ser	Asn		
			405					410						415			
Ala	Ser	Ala	Pro	Thr	Ile	Lys	Tyr	Arg	Val	Ile	Lys	Lys	Asn	Lys	Gly		
		420						425					430				
Ser	Leu	Asp	Lys	Val	Lys	Leu	Pro	Lys	Val	Lys	Glu	Pro	Leu	Ala	Ile		
	435					440					445						
Arg	Arg	Gly	Val	Tyr	Pro	Gln	Trp	Ile	Leu	Asn	Ser	Asn	Gly	Tyr	Phe		
	450				455						460						
Gly	Ile	Ile	Leu	Thr	Pro	Leu	Ser	Glu	Ile	Ala	Ser	Gly	Tyr	Gly	Ser		
465					470					475				480			
Leu	Tyr	Ile	Ser	Gly	Ser	Thr	Ala	Pro	Thr	Arg	Leu	Ser	Ala	Ile	Ser		
			485					490						495			
Pro	Lys	Asn	Gln	Leu	Tyr	Pro	Val	Ser	Lys	Tyr	Pro	Gly	Tyr	Glu	Thr		
			500					505						510			

Leu Leu Pro Leu Pro Lys Asp Ala Gly Thr His Arg Phe Leu Val Tyr  
 515 520 525  
 Ala Gly Pro Leu Ala Glu Pro Thr Leu Lys Val Leu Asp Lys Thr Ile  
 530 535 540  
 Thr Gln Glu Lys Gly Glu Asn Pro Glu Tyr Leu Asp Ser Ile Ser Phe  
 545 550 555 560  
 Arg Gly Val Phe Ala Phe Ile Thr Ala Pro Phe Ala Ala Leu Leu Phe  
 565 570 575  
 Ile Ile Met Lys Phe Phe Lys Leu Val Thr Gly Ser Trp Gly Ile Ser  
 580 585 590  
 Ile Ile Leu Leu Thr Val Phe Leu Lys Leu Leu Leu Tyr Pro Leu Asn  
 595 600 605  
 Ala Trp Ser Ile Arg Ser Met Arg Arg Met Gln Ile Leu Ser Pro Tyr  
 610 615 620  
 Ile Gln Gln Ile Gln Gln Lys Tyr Lys Asn Glu Pro Lys Arg Ala Gln  
 625 630 635 640  
 Met Glu Ile Met Gly Leu Tyr Lys Thr Asn Lys Val Asn Pro Ile Thr  
 645 650 655  
 Gly Cys Leu Pro Leu Leu Ile Gln Leu Pro Phe Leu Ile Ala Met Phe  
 660 665 670  
 Asp Leu Leu Lys Ser Ser Phe Leu Leu Arg Gly Ala Ser Phe Ile Pro  
 675 680 685  
 Gly Trp Ile Asp Asn Leu Thr Ala Pro Asp Val Leu Phe Ser Trp Gln  
 690 695 700  
 Thr Ser Ile Trp Phe Ile Gly Asn Glu Phe His Leu Leu Pro Ile Leu  
 705 710 715 720  
 Leu Gly Ile Val Met Phe Leu Gln Gln Lys Val Thr Ser Leu His Lys  
 725 730 735  
 Lys Gly Pro Val Thr Asp Gln Gln Lys Gln Gln Gln Val Met Gly Asn  
 740 745 750  
 Met Met Ala Ile Leu Phe Thr Ala Met Phe Tyr Asn Phe Pro Ser Gly  
 755 760 765  
 Leu Asn Ile Tyr Trp Leu Ser Ser Met Ile Leu Gly Val Val Gln Gln  
 770 775 780  
 Trp Ile Thr Asn Lys Ile Leu Asp Ser Lys His Leu Lys Asn Glu Val  
 785 790 795 800  
 Val Leu Asn Asn Lys Lys His Arg  
 805

<210> 313  
 <211> 293  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 313  
 Asp Met Arg Ala Glu Met Ala Val Ile Tyr Trp Asp Arg Ser Lys Ile  
 1 5 10 15  
 Val Trp Ser Phe Glu Pro Trp Ser Leu Arg Leu Thr Trp Tyr Gly Val  
 20 25 30  
 Phe Phe Thr Val Gly Ile Phe Leu Ala Cys Leu Ser Ala Arg Tyr Leu  
 35 40 45  
 Ala Leu Ser Tyr Tyr Gly Leu Lys Asp His Leu Ser Phe Ser Lys Ser  
 50 55 60  
 Gln Leu Arg Val Ala Leu Glu Asn Phe Phe Ile Tyr Ser Ile Leu Phe  
 65 70 75 80  
 Ile Val Pro Gly Ala Arg Leu Ala Tyr Val Ile Phe Tyr Gly Trp Ser  
 85 90 95  
 Phe Tyr Leu Gln His Pro Glu Glu Ile Ile Gln Ile Trp His Gly Gly  
 100 105 110  
 Leu Ser Ser His Gly Gly Val Leu Gly Phe Leu Leu Trp Ala Ala Ile  
 115 120 125

Phe Ser Trp Ile Tyr Lys Lys Lys Ile Ser Lys Leu Thr Phe Leu Phe  
 130 135 140  
 Leu Thr Asp Leu Cys Gly Ser Val Phe Gly Ile Ala Ala Phe Phe Ile  
 145 150 155 160  
 Arg Leu Gly Asn Phe Trp Asn Gln Glu Ile Val Gly Thr Pro Thr Ser  
 165 170 175  
 Leu Pro Trp Gly Val Val Phe Ser Asp Pro Met Gln Gly Val Gln Gly  
 180 185 190  
 Val Pro Val His Pro Val Gln Leu Tyr Glu Gly Ile Ser Tyr Leu Val  
 195 200 205  
 Val Ser Gly Ile Leu Tyr Phe Leu Ser Tyr Lys Arg Tyr Leu His Leu  
 210 215 220  
 Gly Lys Gly Tyr Val Thr Ser Ile Ala Cys Ile Ser Val Ala Phe Ile  
 225 230 235 240  
 Arg Phe Phe Ala Glu Tyr Val Lys Ser His Gln Gly Lys Val Leu Ala  
 245 250 255  
 Glu Asp Cys Leu Leu Thr Ile Gly Gln Ile Leu Ser Ile Pro Leu Phe  
 260 265 270  
 Leu Phe Gly Val Ala Leu Leu Ile Cys Ser Leu Lys Ala Arg Arg  
 275 280 285  
 His Arg Ser His Ile  
 290

<210> 314  
 <211> 153  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 314  
 Cys Thr Met Ala Arg Asn Ile Lys Tyr Phe Leu Ile Leu Phe Pro Gly  
 1 5 10 15  
 Ile Leu Trp Ile Ser Ala Gly Met Lys Leu Leu Leu Lys Ala Thr Ala  
 20 25 30  
 Ile Ala Leu Asp Pro Leu Ser Ser Phe Phe Thr Tyr Cys Leu Leu Ser  
 35 40 45  
 Met Val Ser Trp Gly Leu Ala Ser Leu Lys His Arg Tyr Leu Leu Ser  
 50 55 60  
 Lys Thr Ile Arg Lys Gln Leu Ser Leu Ser Ser Glu Phe Phe Ser Gln  
 65 70 75 80  
 Lys Ile Thr Trp Ile Ala Tyr Ile Lys Gln Thr Phe Ile Ser Arg Arg  
 85 90 95  
 Phe Leu Ile Met Val Ile Met Ile Ala Phe Ser Leu Val Leu Arg Arg  
 100 105 110  
 Tyr Ile Ser Asn Pro Gln Ala Leu Phe Val Ile Arg Ala Thr Val Gly  
 115 120 125  
 Tyr Ala Leu Ile Lys Thr Ala Ile Ala Tyr Phe Ser Lys Leu Gln Asn  
 130 135 140  
 Ala Leu Met Glu Asn Pro Glu Gly Asn  
 145 150

<210> 315  
 <211> 133  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 315  
 Trp Lys Ile Leu Lys Glu Ile Ser Ala Asn Ser Met Glu Ile Ile His  
 1 5 10 15  
 Ile Gly Thr Asp Ile Ile Glu Ile Ser Arg Ile Arg Glu Ala Ile Ala  
 20 25 30

Thr His Gly Asn Arg Leu Leu Asn Arg Ile Phe Thr Glu Ala Glu Gln  
           35                          40                          45  
 Lys Tyr Cys Leu Glu Lys Thr Asp Pro Ile Pro Ser Phe Ala Gly Arg  
           50                          55                          60  
 Phe Ala Gly Lys Glu Ala Val Ala Lys Ala Leu Gly Thr Gly Ile Gly  
 65                          70                          75                          80  
 Ser Val Val Ala Trp Lys Asp Ile Glu Val Phe Lys Val Ser His Gly  
                           85                          90                          95  
 Pro Glu Val Leu Leu Pro Ser His Val Tyr Ala Lys Ile Gly Ile Ser  
                           100                          105                          110  
 Lys Val Ile Leu Ser Ile Ser His Cys Lys Glu Tyr Ala Thr Ala Thr  
           115                          120                          125  
 Ala Ile Ala Leu Ala  
           130

<210> 316  
 <211> 311  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 316  
 Met Ile His Ser Arg Leu Ile Ile Ile Gly Ser Gly Pro Ser Gly Tyr  
   1                          5                          10                          15  
 Thr Ala Ala Ile Tyr Ala Ser Arg Ala Leu Leu His Pro Leu Leu Phe  
           20                          25                          30  
 Glu Gly Phe Phe Ser Gly Ile Ser Gly Gly Gln Leu Met Thr Thr Thr  
           35                          40                          45  
 Glu Val Glu Asn Phe Pro Gly Phe Pro Glu Gly Ile Leu Gly Pro Lys  
           50                          55                          60  
 Leu Met Asn Asn Met Lys Glu Gln Ala Val Arg Phe Gly Thr Lys Thr  
 65                          70                          75                          80  
 Leu Ala Gln Asp Ile Ile Ser Val Asp Phe Ser Val Arg Pro Phe Ile  
                           85                          90                          95  
 Leu Lys Ser Lys Glu Glu Thr Tyr Ser Cys Asp Ala Cys Ile Ile Ala  
                           100                          105                          110  
 Thr Gly Ala Ser Ala Lys Arg Leu Glu Ile Pro Gly Ala Gly Asn Asp  
           115                          120                          125  
 Glu Phe Trp Gln Lys Gly Val Thr Ala Cys Ala Val Cys Asp Gly Ala  
           130                          135                          140  
 Ser Pro Ile Phe Lys Asn Lys Asp Leu Tyr Val Ile Gly Gly Gly Asp  
 145                          150                          155                          160  
 Ser Ala Leu Glu Glu Ala Leu Tyr Leu Thr Arg Tyr Gly Ser His Val  
                           165                          170                          175  
 Tyr Val Val His Arg Arg Asp Lys Leu Arg Ala Ser Lys Ala Met Glu  
                           180                          185                          190  
 Ala Arg Ala Gln Asn Asn Glu Lys Ile Thr Phe Leu Trp Asn Ser Glu  
           195                          200                          205  
 Ile Val Lys Ile Ser Gly Asp Ser Ile Val Arg Ser Val Asp Ile Lys  
           210                          215                          220  
 Asn Val Gln Thr Gln Glu Ile Thr Thr Arg Glu Ala Ala Gly Val Phe  
 225                          230                          235                          240  
 Phe Ala Ile Gly His Lys Pro Asn Thr Asp Phe Leu Gly Gly Gln Leu  
                           245                          250                          255  
 Thr Leu Asp Glu Ser Gly Tyr Ile Val Thr Glu Lys Gly Thr Ser Lys  
           260                          265                          270  
 Thr Ser Val Pro Gly Val Phe Ala Ala Gly Asp Val Gln Asp Lys Tyr  
           275                          280                          285  
 Tyr Arg Gln Ala Val Thr Ser Ala Gly Ser Gly Cys Ile Ala Ala Leu  
           290                          295                          300  
 Asp Ala Glu Arg Phe Leu Gly  
 305                          310



<210> 317  
 <211> 580  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 317  
 Met Pro Lys Gln Ala Glu Tyr Thr Trp Gly Ser Lys Lys Ile Leu Asp  
 1 5 10 15  
 Asn Ile Glu Cys Leu Thr Glu Asp Val Ala Glu Phe Lys Asp Leu Leu  
 20 25 30  
 Tyr Thr Ala His Arg Ile Thr Ser Glu Glu Glu Ser Asp Asn Glu  
 35 40 45  
 Ile Gln Pro Gly Ala Ile Leu Lys Gly Thr Val Val Asp Ile Asn Lys  
 50 55 60  
 Asp Phe Val Val Val Asp Val Gly Leu Lys Ser Glu Gly Val Ile Pro  
 65 70 75 80  
 Met Ser Glu Phe Ile Asp Ser Ser Glu Gly Leu Val Leu Gly Ala Glu  
 85 90 95  
 Val Glu Val Tyr Leu Asp Gln Ala Glu Asp Glu Glu Gly Lys Val Val  
 100 105 110  
 Leu Ser Arg Glu Lys Ala Thr Arg Gln Arg Gln Trp Glu Tyr Ile Leu  
 115 120 125  
 Ala His Cys Glu Glu Gly Ser Ile Val Lys Gly Gln Ile Thr Arg Lys  
 130 135 140  
 Val Lys Gly Gly Leu Ile Val Asp Ile Gly Met Glu Ala Phe Leu Pro  
 145 150 155 160  
 Gly Ser Gln Ile Asp Asn Lys Lys Ile Lys Asn Leu Asp Asp Tyr Val  
 165 170 175  
 Gly Lys Val Cys Glu Phe Lys Ile Leu Lys Ile Asn Val Glu Arg Arg  
 180 185 190  
 Asn Ile Val Val Ser Arg Arg Glu Leu Leu Glu Ala Glu Arg Ile Ser  
 195 200 205  
 Lys Lys Ala Glu Leu Ile Glu Gln Ile Ser Ile Gly Glu Tyr Arg Lys  
 210 215 220  
 Gly Val Val Lys Asn Ile Thr Asp Phe Gly Val Phe Leu Asp Leu Asp  
 225 230 235 240  
 Gly Ile Asp Gly Leu Leu His Ile Thr Asp Met Thr Trp Lys Arg Ile  
 245 250 255  
 Arg His Pro Ser Glu Met Val Glu Leu Asn Gln Glu Leu Glu Val Ile  
 260 265 270  
 Ile Leu Ser Val Asp Lys Glu Lys Gly Arg Val Ala Leu Gly Leu Lys  
 275 280 285  
 Gln Lys Glu His Asn Pro Trp Glu Asp Ile Glu Lys Lys Tyr Pro Pro  
 290 295 300  
 Gly Lys Arg Val Leu Gly Lys Ile Val Lys Leu Leu Pro Tyr Gly Ala  
 305 310 315 320  
 Phe Ile Glu Ile Glu Glu Gly Ile Glu Gly Leu Ile His Ile Ser Glu  
 325 330 335  
 Met Ser Trp Val Lys Asn Ile Val Asp Pro Ser Glu Val Val Asn Lys  
 340 345 350  
 Gly Asp Glu Val Glu Ala Ile Val Leu Ser Ile Gln Lys Asp Glu Gly  
 355 360 365  
 Lys Ile Ser Leu Gly Leu Lys Gln Thr Glu Arg Asn Pro Trp Asp Asn  
 370 375 380  
 Ile Glu Glu Lys Tyr Pro Ile Gly Leu His Val Asn Ala Glu Ile Lys  
 385 390 395 400  
 Asn Leu Thr Asn Tyr Gly Ala Phe Val Glu Leu Glu Pro Gly Ile Glu  
 405 410 415  
 Gly Leu Ile His Ile Ser Asp Met Ser Trp Ile Lys Lys Val Ser His  
 420 425 430

Pro Ser Glu Leu Phe Lys Lys Gly Asn Ser Val Glu Ala Val Ile Leu  
           435                          440                          445  
 Ser Val Asp Lys Glu Ser Lys Lys Ile Thr Leu Gly Val Lys Gln Leu  
           450                          455                          460  
 Ser Ser Asn Pro Trp Asn Glu Ile Glu Ala Met Phe Pro Ala Gly Thr  
 465                          470                          475                          480  
 Val Ile Ser Gly Val Val Thr Lys Ile Thr Ala Phe Gly Ala Phe Val  
                           485                          490                          495  
 Glu Leu Gln Asn Gly Ile Glu Gly Leu Ile His Val Ser Glu Leu Ser  
                           500                          505                          510  
 Asp Lys Pro Phe Ala Lys Ile Glu Asp Ile Ile Ser Ile Gly Glu Asn  
           515                          520                          525  
 Val Ser Ala Lys Val Ile Lys Leu Asp Pro Asp His Lys Lys Val Ser  
           530                          535                          540  
 Leu Ser Val Lys Glu Tyr Leu Ala Asp Asn Ala Tyr Asp Gln Asp Ser  
 545                          550                          555                          560  
 Arg Thr Glu Leu Asp Phe Lys Asp Ser Gln Gly Pro Lys Glu Arg Lys  
                           565                          570                          575  
 Lys Lys Gly Lys  
                           580

<210> 318  
 <211> 446  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 318  
 Leu Phe Thr Asp Phe Leu Ile Tyr Lys Pro Ser Ile Met Asn Lys Asn  
   1                          5                          10                          15  
 Leu Val Ala Ile Phe Asp Tyr Met Glu Lys Glu Lys Gly Ile Gln Arg  
           20                          25                          30  
 Ser Thr Ile Ile Gly Ala Ile Glu Ser Ala Leu Lys Ile Ala Ala Lys  
           35                          40                          45  
 Lys Thr Leu Arg Asp Asp Ala Asn Ile Ser Val Asn Ile Asn Ser Arg  
   50                          55                          60  
 Thr Gly Asp Ile Glu Val Phe Cys Glu Lys Glu Ile Val Glu Ile Cys  
 65                          70                          75                          80  
 Gln Asn Pro Ser Lys Glu Ile Pro Leu Asp Lys Ala Arg Glu Tyr Asp  
           85                          90                          95  
 Pro Asp Cys Gln Ile Gly Gln Tyr Met Asp Val Pro Phe Val Ser Asp  
           100                          105                          110  
 Asn Phe Gly Arg Ile Ala Ala His Ala Ala Arg Gln Ile Ile Gly Gln  
           115                          120                          125  
 Lys Leu Arg His Ala Glu Arg Asp Val Ile Tyr Glu Glu Tyr Arg His  
   130                          135                          140  
 Arg Val Asn Glu Thr Leu Ser Gly Val Val Lys Arg Phe Ala Lys Gly  
 145                          150                          155                          160  
 Ser Asn Leu Ile Ile Asp Leu Gly Lys Val Glu Ala Ile Leu Pro Thr  
           165                          170                          175  
 Arg Phe Tyr Pro Lys Thr Glu Lys His Lys Ile Gly Asp Lys Ile Tyr  
           180                          185                          190  
 Ala Leu Leu Tyr Glu Val Gln Glu Ser Glu Asn Gly Gly Ala Glu Val  
           195                          200                          205  
 Ile Leu Ser Arg Ser His Ala Glu Phe Val Lys Gln Leu Phe Ile Gln  
   210                          215                          220  
 Glu Val Pro Glu Leu Glu Glu Gly Ser Val Glu Ile Val Lys Ile Ala  
 225                          230                          235                          240  
 Arg Glu Ala Gly Tyr Arg Thr Lys Leu Ala Val Arg Ser Ser Asp Pro  
           245                          250                          255  
 Lys Thr Asp Pro Val Gly Ala Phe Val Gly Met Arg Gly Ser Arg Val  
           260                          265                          270

Lys Asn Ile Ile Arg Glu Leu Asn Asp Glu Lys Ile Asp Ile Val Asn  
 275 280 285  
 Tyr Ser Pro Val Ser Thr Glu Leu Leu Gln Asn Leu Leu Tyr Pro Ile  
 290 295 300  
 Glu Ile Gln Lys Ile Ala Ile Leu Glu Asp Asp Lys Val Ile Ala Ile  
 305 310 315 320  
 Val Val Asn Asp Ala Asp Tyr Ala Thr Val Ile Gly Lys Arg Gly Ile  
 325 330 335  
 Asn Ala Arg Leu Ile Ser His Ile Leu Asp Tyr Glu Leu Glu Val Gln  
 340 345 350  
 Arg Met Ser Glu Tyr Asn Lys Leu Leu Glu Ile Gln Arg Leu Gln Leu  
 355 360 365  
 Ala Glu Phe Asp Ser Pro His Leu Asp Gln Pro Leu Glu Met Glu Gly  
 370 375 380  
 Ile Ser Lys Leu Val Ile Gln Asn Leu Glu His Ala Gly Tyr Asp Thr  
 385 390 395 400  
 Ile Arg Arg Val Leu Leu Ala Ser Ala Asn Asp Leu Ala Ser Val Pro  
 405 410 415  
 Gly Ile Ser Leu Glu Leu Ala Tyr Lys Ile Leu Glu Gln Val Ser Lys  
 420 425 430  
 Tyr Gly Glu Ser Lys Val Asp Glu Lys Pro Glu Ile Glu Asp  
 435 440 445

<210> 319

<211> 902

<212> PRT

<213> Chlamydia pneumoniae

<400> 319

Ser Leu Leu Ile Arg Ser Leu Ser Lys Ser Ala Asn Met Glu Lys Val  
 1 5 10 15  
 Lys Leu Thr Lys Asn Leu Lys Leu Lys Ile Lys Asn Ala Gln Leu Thr  
 20 25 30  
 Lys Ala Ala Gly Leu Asp Lys Leu Lys Gln Lys Leu Ala Gln Ala Gly  
 35 40 45  
 Ser Ser Glu Ala Lys Ser Ser Ser Glu Lys Pro Ser Ala Lys Glu Lys  
 50 55 60  
 Ser Val Lys Val Ala Leu Ala Ala Thr Ser Thr Pro Thr Ala Ser Ala  
 65 70 75 80  
 Glu Gln Ala Ser Pro Glu Ser Thr Ser Arg Arg Ile Arg Ala Lys Asn  
 85 90 95  
 Arg Ser Ser Phe Ser Ser Ser Glu Glu Ser Ser Ala His Ile Pro  
 100 105 110  
 Val Asp Thr Ser Glu Pro Ala Pro Val Ser Ile Ala Asp Pro Glu Pro  
 115 120 125  
 Glu Leu Glu Val Val Asp Glu Val Cys Asp Glu Ser Pro Glu Val His  
 130 135 140  
 Pro Val Ala Glu Val Leu Pro Glu Gln Pro Val Leu Pro Glu Thr Pro  
 145 150 155 160  
 Pro Gln Glu Lys Glu Leu Glu Pro Lys Pro Val Lys Pro Ala Glu Pro  
 165 170 175  
 Lys Ser Val Val Met Ile Lys Ser Lys Phe Gly Pro Thr Gly Lys His  
 180 185 190  
 Ile Asn His Leu Leu Ala Lys Thr Phe Lys Ala Pro Ala Lys Glu Glu  
 195 200 205  
 Lys Val Val Ala Gly Ser Lys Ser Thr Lys Pro Val Ala Ser Asp Lys  
 210 215 220  
 Thr Gly Lys Pro Gly Thr Ser Glu Gly Gly Glu Gln Asn Asn Arg Glu  
 225 230 235 240  
 Lys Gln Phe Asn Pro Ala Asn Arg Ser Pro Ala Ser Gly Pro Lys Arg  
 245 250 255

Asp Ala Gly Lys Lys Asn Leu Thr Asp Phe Arg Asp Arg Ser Lys Lys  
 260 265 270  
 Ser Asp Glu Ser Leu Lys Ala Phe Thr Gly Arg Asp Arg Tyr Gly Leu  
 275 280 285  
 Asn Glu Gly Gly Glu Glu Asp Arg Trp Arg Lys Lys Arg Val Tyr Lys  
 290 295 300  
 Pro Lys Lys His Tyr Asp Glu Ala Ser Ile Gln Arg Pro Thr His Ile  
 305 310 315 320  
 Lys Ile Ser Leu Pro Ile Thr Val Lys Asp Leu Ala Ala Glu Met Lys  
 325 330 335  
 Leu Lys Ala Ser Glu Val Ile Gln Lys Leu Phe Ile His Gly Met Thr  
 340 345 350  
 Tyr Val Val Asn Asp Ile Leu Asp Ser Glu Thr Ala Val Gln Phe Ile  
 355 360 365  
 Gly Leu Glu Phe Gly Cys Thr Ile Asp Ile Asp Tyr Ser Glu Gln Asp  
 370 375 380  
 Lys Leu Cys Leu Ser Asn Asp Thr Val Arg Asp Glu Ile Gln Ser Thr  
 385 390 395 400  
 Asp Pro Ser Lys Leu Val Ile Arg Ser Pro Ile Val Ala Phe Met Gly  
 405 410 415  
 His Val Asp His Gly Lys Thr Thr Leu Ile Asp Ser Leu Arg Lys Ser  
 420 425 430  
 Asn Val Ala Ala Thr Glu Ala Gly Ala Ile Thr Gln His Met Gly Ala  
 435 440 445  
 Phe Cys Cys Ser Thr Pro Val Gly Asp Ile Thr Ile Leu Asp Thr Pro  
 450 455 460  
 Gly His Glu Ala Phe Ser Ala Met Arg Ala Arg Gly Ala Glu Val Cys  
 465 470 475 480  
 Asp Ile Val Val Leu Val Val Ala Gly Asp Glu Gly Ile Lys Glu Gln  
 485 490 495  
 Thr Leu Glu Ala Ile Glu His Ala Lys Ala Ala Asp Ile Ala Ile Val  
 500 505 510  
 Val Ala Ile Asn Lys Cys Asp Lys Pro Asn Phe Asn Ser Glu Thr Ile  
 515 520 525  
 Tyr Arg Gln Leu Ser Glu Ile Asn Leu Leu Pro Glu Ala Trp Gly Gly  
 530 535 540  
 Ser Thr Val Thr Val Asn Thr Ser Ala Lys Thr Gly Glu Gly Leu Ser  
 545 550 555 560  
 Glu Leu Leu Glu Met Leu Ala Leu Gln Ala Glu Val Leu Glu Leu Lys  
 565 570 575  
 Ala Asp Pro Ser Ala Arg Ala Arg Gly Leu Val Ile Glu Ser Glu Leu  
 580 585 590  
 His Lys Gly Leu Gly Pro Val Ala Thr Val Leu Ile Gln Asn Gly Ser  
 595 600 605  
 Leu Lys Leu Gly Glu Ala Leu Val Phe Asn Asp Cys Tyr Gly Lys Val  
 610 615 620  
 Lys Thr Met His Asn Glu His Asn Glu Leu Met Lys Glu Ala Gly Pro  
 625 630 635 640  
 Ser Ile Pro Val Leu Ile Thr Gly Leu Ser Asp Ile Pro Lys Ala Gly  
 645 650 655  
 Asp Pro Phe Phe Val Val Lys Asn Glu Lys Thr Ala Arg Asp Ile Ile  
 660 665 670  
 Glu Ala Arg Ser Ala Gly Gln Gln Arg Phe Ala Leu Gln Gln Lys Lys  
 675 680 685  
 Arg Pro Asn Phe Asp Ser Met Leu Gln Asn Lys Lys Thr Leu Lys Leu  
 690 695 700  
 Met Ile Lys Ala Asp Val Gln Gly Ser Ile Glu Ala Leu Val Ser Ser  
 705 710 715 720  
 Ile Ser Lys Ile Lys Ser Glu Lys Val Asp Val Glu Ile Leu Thr Asn  
 725 730 735

Ser Val Gly Glu Ile Ser Glu Ser Asp Ile Arg Leu Ala Ala Ala Ser  
 740 745 750  
 Lys Ala Val Leu Ile Gly Phe His Thr Gly Ile Glu Ser His Ala Glu  
 755 760 765  
 Pro Leu Ile Lys Ser Leu Gly Val Arg Val Glu Leu Phe Thr Val Ile  
 770 775 780  
 Tyr His Ala Ile Asp Ala Ile Lys Glu Ile Met Thr Ser Leu Leu Asp  
 785 790 795 800  
 Pro Ile Ala Glu Glu Lys Asp Glu Gly Ser Ala Glu Ile Lys Glu Ile  
 805 810 815  
 Phe Arg Ser Ser Gln Val Gly Ser Ile Tyr Gly Cys Ile Val Thr Glu  
 820 825 830  
 Gly Ile Met Thr Arg Asn His Lys Val Arg Val Leu Arg Asn Lys Glu  
 835 840 845  
 Ile Leu Trp Lys Gly Thr Leu Ser Ser Leu Lys Arg Val Lys Glu Asp  
 850 855 860  
 Val Lys Glu Val Arg Lys Gly Leu Glu Cys Gly Ile Leu Leu Glu Gly  
 865 870 875 880  
 Tyr Gln Gln Ala Gln Ile Gly Asp Val Leu Gln Cys Tyr Glu Val Ile  
 885 890 895  
 Tyr His Pro Gln Lys Leu  
 900

<210> 320  
 <211> 141  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 320  
 Val Met Ser Tyr Asn Val Met Lys Leu Ser Ile Ile His Lys Asn Tyr  
 1 5 10 15  
 Asn Leu Lys Tyr Cys Met Thr Glu Asn Arg Arg Ile Lys Arg Val Asn  
 20 25 30  
 Ala Leu Leu Gln Glu Ala Ile Ala Lys Val Ile Leu Lys Asp Val Lys  
 35 40 45  
 His Pro Lys Ile Ser Asn Leu Trp Ile Thr Val Thr Arg Val Ser Leu  
 50 55 60  
 Ser Lys Asp Leu His Ser Ala Arg Val Tyr Val Ser Val Met Pro His  
 65 70 75 80  
 Glu Asn Thr Lys Glu Glu Ala Leu Glu Ala Leu Lys Val Ser Ala Gly  
 85 90 95  
 Phe Ile Ala His Arg Ala Ser Lys Asn Val Val Leu Lys Tyr Phe Pro  
 100 105 110  
 Glu Leu His Phe Tyr Leu Asp Asp Ile Phe Ser Pro Gln Asp Tyr Ile  
 115 120 125  
 Glu Asn Leu Leu Trp Gln Ile Gln Glu Lys Glu Lys Ser  
 130 135 140

<210> 321  
 <211> 249  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 321  
 Thr Ile Phe Phe Gly Asn Leu Asn Thr Ile Lys Asp Met Thr Met Asp  
 1 5 10 15  
 Leu Ala Val Glu Leu Lys Glu Gly Ile Leu Leu Val Asp Lys Pro Gln  
 20 25 30  
 Gly Arg Thr Ser Phe Ser Leu Ile Arg Ala Leu Thr Lys Leu Ile Gly  
 35 40 45

Val Lys Lys Ile Gly His Ala Gly Thr Leu Asp Pro Phe Ala Thr Gly  
 50 55 60  
 Val Met Val Met Leu Ile Gly Arg Lys Phe Thr Arg Leu Ser Asp Ile  
 65 70 75 80  
 Leu Leu Phe Glu Asp Lys Glu Tyr Glu Ala Ile Ala His Leu Gly Thr  
 85 90 95  
 Thr Thr Asp Ser Tyr Asp Cys Asp Gly Lys Val Val Gly Arg Ser Lys  
 100 105 110  
 Lys Ile Pro Ser Leu Glu Glu Val Leu Ser Ala Ala Glu Tyr Phe Gln  
 115 120 125  
 Gly Glu Ile Gln Gln Leu Pro Pro Met Phe Ser Ala Lys Lys Val Gln  
 130 135 140  
 Gly Lys Lys Leu Tyr Glu Tyr Ala Arg Lys Gly Leu Ser Ile Glu Arg  
 145 150 155 160  
 His His Ser Thr Val Gln Val His Leu Gln Ile Thr Lys Tyr Glu Tyr  
 165 170 175  
 Pro Leu Leu His Phe Val Val Ser Cys Ser Lys Gly Thr Tyr Ile Arg  
 180 185 190  
 Ser Ile Ala His Glu Leu Gly Thr Met Leu Gly Cys Gly Ala Tyr Leu  
 195 200 205  
 Glu Gln Leu Arg Arg Leu Arg Ser Gly Arg Phe Ser Ile Asp Glu Cys  
 210 215 220  
 Ile Asp Gly Asn Leu Leu Asp His Pro Asp Phe Asp Ile Ser Pro Tyr  
 225 230 235 240  
 Leu Arg Asp Ala His Gly Asn Ser Leu  
 245

<210> 322  
 <211> 320  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 322  
 Thr Thr Pro Ile Ser Ile Phe Leu Pro Thr Tyr Glu Met Pro Met Glu  
 1 5 10 15  
 Ile Ala Tyr Ser Leu Thr Ser Ser Phe Ser Val Asp Ser Val Thr Val  
 20 25 30  
 Gly Phe Phe Asp Gly Cys His Leu Gly His Ser Asn Leu Leu Ser Ile  
 35 40 45  
 Leu Thr Ser Tyr Ser Gly Ser Ser Gly Val Ile Thr Phe Asp Ser His  
 50 55 60  
 Pro Gln Thr Val Leu Ser Leu Asn His Thr Lys Leu Ile Asn Thr Lys  
 65 70 75 80  
 Glu Glu Arg Leu Gln Leu Leu Gln Thr Phe Pro Ile Asp Trp Leu Gly  
 85 90 95  
 Val Leu Thr Phe Asp Leu Asn Phe Ala Asn Gln Ser Ala Glu Glu Phe  
 100 105 110  
 Leu Thr Leu Leu His Arg Asn Leu Lys Cys Lys Arg Leu Ile Leu Gly  
 115 120 125  
 Tyr Asp Ser Cys Ile Gly Lys Glu Gln Gln Ser Asn Thr Glu Ala Leu  
 130 135 140  
 Asp Thr Ile Gly Lys Pro Leu Gly Ile Glu Val Ile Lys Ile Pro Pro  
 145 150 155 160  
 Tyr Arg Met Asp Asn Ile Val Val Ser Ser Lys Ala Ile Arg Gln Phe  
 165 170 175  
 Leu Ser Ala Gly Asn Leu Glu Cys Ala His Arg Phe Leu Gly His Pro  
 180 185 190  
 Tyr Ala Ile Ser Gly Lys Ile Thr Glu Gly Ser Gly Ile Gly Gly Ser  
 195 200 205  
 Leu Gly Phe Ala Thr Ile Asn Leu Pro Arg Glu Glu Ser Leu Ile Pro  
 210 215 220

Leu Gly Val Tyr Ala Cys Glu Ile Arg Tyr Asp Ser Thr Thr Cys Gln  
 225 230 235 240  
 Gly Val Met Asn Leu Gly Thr Ala Pro Thr Phe Gly Arg Glu Ser Leu  
 245 250 255  
 Tyr Ala Glu Ala His Ile Phe Ser Phe Ala Glu Asn Leu Tyr Gly Lys  
 260 265 270  
 Glu Val Ser Ile Ile Pro Arg Lys Phe Leu Arg Glu Glu Lys Lys Phe  
 275 280 285  
 Gln Ser Lys Glu Thr Leu Ile Arg Ala Ile Glu Lys Asp Ile Leu Asp  
 290 295 300  
 Ala Gln Asp Trp Phe Ala Lys Gly Ser Phe Asn Tyr Glu Gly Thr Ala  
 305 310 315 320

<210> 323

<211> 378

<212> PRT

<213> Chlamydia pneumoniae

<400> 323

Tyr Ser Lys Lys His Val Ile Ile Phe Ile Phe Arg Cys Leu Met Ser  
 1 5 10 15  
 His Thr Glu Cys Gly Ile Val Gly Leu Pro Asn Val Gly Lys Ser Gly  
 20 25 30  
 Leu Phe Asn Ala Leu Thr Gly Ala Gln Val Ala Ser Cys Asn Tyr Pro  
 35 40 45  
 Phe Cys Thr Ile Asp Pro Asn Val Gly Ile Val Pro Val Ile Asp Glu  
 50 55 60  
 Arg Leu Glu Ala Leu Ala Lys Ile Ser Asn Ser Gln Lys Ile Ile Tyr  
 65 70 75 80  
 Ala Asp Met Lys Phe Val Asp Ile Ala Gly Leu Val Lys Gly Ala Ser  
 85 90 95  
 Asp Gly Ala Gly Leu Gly Asn Arg Phe Leu Ser His Ile Arg Glu Thr  
 100 105 110  
 His Ala Ile Ala His Val Val Arg Cys Phe Asp Asp Pro Asp Val Thr  
 115 120 125  
 His Val Ser Gly Lys Val Asn Pro Val Glu Asp Ile Glu Val Ile Asn  
 130 135 140  
 Leu Glu Leu Ile Phe Ser Asp Phe Ser Ser Ala Lys Asn Ile His Ser  
 145 150 155 160  
 Lys Leu Glu Lys Leu Ala Lys Gly Lys Arg Glu Val Gly Ala Leu Leu  
 165 170 175  
 Pro Leu Phe Asp Thr Ile Ile Ala His Leu Glu Lys Gly Leu Pro Leu  
 180 185 190  
 Arg Thr Leu Glu Leu Thr Pro Glu Gln Ile Val Ala Leu Lys Pro Tyr  
 195 200 205  
 Pro Phe Leu Thr Met Lys Pro Met Phe Tyr Ile Ala Asn Val Asp Glu  
 210 215 220  
 Ser Ser Leu Pro Asp Met Asp Asn Asp Tyr Val Ala Ala Val Arg Glu  
 225 230 235 240  
 Val Ala Ala Lys Glu Asn Ser Lys Val Val Pro Ile Cys Val Arg Ile  
 245 250 255  
 Glu Glu Glu Ile Val Ser Leu Pro Ile Glu Glu Arg Leu Glu Phe Leu  
 260 265 270  
 Met Ser Leu Gly Leu Glu Lys Ser Gly Leu His Arg Leu Val Arg Ala  
 275 280 285  
 Ala Tyr Asp Thr Leu Gly Leu Ile Ser Tyr Phe Thr Thr Gly Pro Gln  
 290 295 300  
 Glu Ser Arg Ala Trp Thr Val Val Arg Gly Ser Ser Ala Trp Glu Ala  
 305 310 315 320  
 Ala Gly Glu Ile His Thr Asp Ile Gln Lys Gly Phe Ile Arg Ala Glu  
 325 330 335

Val Ile Thr Phe Glu Asp Met Ile Glu Cys Gln Gly Arg Ala Ala Ala  
 340 345 350  
 Arg Glu Leu Gly Lys Leu His Ile Glu Gly Arg Asp Tyr Ile Val Gln  
 355 360 365  
 Asp Gly Asp Thr Met Leu Phe Leu His Asn  
 370 375

<210> 324  
 <211> 366  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 324  
 Ser Asn Leu Gly Asn Ser Met Gly Glu Lys Thr Glu Lys Ala Thr Pro  
 1 5 10 15  
 Lys Arg Leu Arg Asp Ala Arg Lys Lys Gly Gln Val Ala Lys Ser Gln  
 20 25 30  
 Asp Phe Pro Ser Ala Val Thr Phe Ile Val Ser Met Phe Thr Ala Phe  
 35 40 45  
 Ser Leu Ser Thr Phe Phe Phe Lys His Leu Gly Gly Phe Leu Val Ser  
 50 55 60  
 Met Leu Ser Gln Ala Pro Thr Arg His Asp Pro Val Ile Thr Leu Phe  
 65 70 75 80  
 Tyr Leu Lys Asn Cys Leu Met Leu Ile Leu Thr Ala Ser Leu Pro Leu  
 85 90 95  
 Leu Gly Ala Val Ala Val Val Gly Val Ile Val Gly Phe Leu Ile Val  
 100 105 110  
 Gly Pro Thr Phe Ser Thr Glu Val Phe Lys Pro Asp Ile Lys Lys Phe  
 115 120 125  
 Asn Pro Ile Glu Asn Ile Lys Gln Lys Phe Lys Ile Lys Thr Leu Ile  
 130 135 140  
 Glu Leu Ile Lys Ser Ile Leu Lys Ile Phe Gly Ala Ala Leu Ile Leu  
 145 150 155 160  
 Tyr Ile Thr Leu Lys Ser Lys Val Ser Leu Ile Ile Glu Thr Ala Gly  
 165 170 175  
 Val Ser Pro Ile Ile Thr Ala Gln Ile Phe Lys Glu Ile Phe Tyr Lys  
 180 185 190  
 Ala Val Thr Ser Ile Gly Ile Phe Phe Leu Ile Val Ala Ile Leu Asp  
 195 200 205  
 Leu Val Tyr Gln Arg His Asn Phe Ala Lys Glu Leu Lys Met Glu Lys  
 210 215 220  
 Phe Glu Val Lys Gln Glu Phe Lys Asp Thr Glu Gly Asn Pro Glu Ile  
 225 230 235 240  
 Lys Gly Arg Arg Arg Gln Ile Ala Gln Glu Ile Ala Tyr Glu Asp Ser  
 245 250 255  
 Ser Ser Gln Val Lys His Ala Ser Thr Val Val Ser Asn Pro Lys Asp  
 260 265 270  
 Ile Ala Val Ala Ile Gly Tyr Met Pro Glu Lys Tyr Lys Ala Pro Trp  
 275 280 285  
 Ile Ile Ala Met Gly Ile Asn Leu Arg Ala Lys Arg Ile Leu Asp Glu  
 290 295 300  
 Ala Glu Lys Tyr Gly Ile Pro Ile Met Arg Asn Val Pro Leu Ala His  
 305 310 315 320  
 Gln Leu Leu Asp Glu Gly Lys Glu Leu Lys Phe Ile Pro Glu Ser Thr  
 325 330 335  
 Tyr Glu Ala Ile Gly Glu Ile Leu Leu Tyr Ile Thr Ser Leu Asn Ala  
 340 345 350  
 Gln Asn Pro Asn Asn Lys Asn Thr Asn Gln Pro Asp His Leu  
 355 360 365



<210> 325  
 <211> 713  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 325  
 Ser Phe Ile Met Asn Lys Leu Leu Asn Phe Val Ser Arg Thr Leu Gly  
 1 5 10 15  
 Gly Asp Thr Ala Leu Asn Met Ile Asn Lys Ser Ser Asp Leu Ile Leu  
 20 25 30  
 Ala Leu Trp Met Met Gly Val Val Leu Met Ile Ile Ile Pro Leu Pro  
 35 40 45  
 Pro Pro Ile Val Asp Leu Met Ile Thr Ile Asn Leu Ser Ile Ser Val  
 50 55 60  
 Phe Leu Leu Met Val Ala Leu Tyr Ile Pro Ser Ala Leu Gln Leu Ser  
 65 70 75 80  
 Val Phe Pro Ser Leu Leu Leu Ile Thr Thr Met Phe Arg Leu Gly Ile  
 85 90 95  
 Asn Ile Ser Ser Ser Arg Gln Ile Leu Lys Ala Tyr Ala Gly His  
 100 105 110  
 Val Ile Gln Ala Phe Gly Asp Phe Val Val Gly Gly Asn Tyr Val Val  
 115 120 125  
 Gly Phe Ile Ile Phe Leu Ile Ile Thr Ile Ile Gln Phe Ile Val Val  
 130 135 140  
 Thr Lys Gly Ala Glu Arg Val Ala Glu Val Ala Ala Arg Phe Arg Leu  
 145 150 155 160  
 Asp Ala Met Pro Gly Lys Gln Met Ala Ile Asp Ala Asp Leu Arg Ala  
 165 170 175  
 Gly Met Ile Asp Ala Thr Gln Ala Arg Asp Lys Arg Ala Gln Ile Gln  
 180 185 190  
 Lys Glu Ser Glu Leu Tyr Gly Ala Met Asp Gly Ala Met Lys Phe Ile  
 195 200 205  
 Lys Gly Asp Val Ile Ala Gly Ile Val Ile Ser Leu Ile Asn Ile Val  
 210 215 220  
 Gly Gly Leu Thr Ile Gly Val Ala Met His Gly Met Asp Leu Ala Gln  
 225 230 235 240  
 Ala Ala His Val Tyr Thr Leu Leu Ser Ile Gly Asp Gly Leu Val Ser  
 245 250 255  
 Gln Ile Pro Ser Leu Leu Ile Ala Leu Thr Ala Gly Ile Val Thr Thr  
 260 265 270  
 Arg Val Ser Ser Asp Lys Asn Thr Asn Leu Gly Lys Glu Ile Ser Thr  
 275 280 285  
 Gln Leu Val Lys Glu Pro Arg Ala Leu Leu Leu Ala Gly Ala Ala Thr  
 290 295 300  
 Leu Gly Val Gly Phe Phe Lys Gly Phe Pro Leu Trp Ser Phe Ser Ile  
 305 310 315 320  
 Leu Ala Leu Ile Phe Val Ala Leu Gly Ile Leu Leu Leu Thr Lys Lys  
 325 330 335  
 Ser Ala Ala Gly Lys Lys Gly Gly Gly Ser Gly Ala Ser Thr Thr Val  
 340 345 350  
 Gly Ala Ala Gly Asp Gly Ala Ala Thr Val Gly Asp Asn Pro Asp Asp  
 355 360 365  
 Tyr Ser Leu Thr Leu Pro Val Ile Leu Glu Leu Gly Lys Asp Leu Ser  
 370 375 380  
 Lys Leu Ile Gln His Lys Thr Lys Ser Gly Gln Ser Phe Val Asp Asp  
 385 390 395 400  
 Met Ile Pro Lys Met Arg Gln Ala Leu Tyr Gln Asp Ile Gly Ile Arg  
 405 410 415  
 Tyr Pro Gly Ile His Val Arg Thr Asp Ser Pro Ser Leu Glu Gly Tyr  
 420 425 430

Asp Tyr Met Ile Leu Leu Asn Glu Val Pro Tyr Val Arg Gly Lys Ile  
 435 440 445  
 Pro Pro His His Val Leu Thr Asn Glu Val Glu Asp Asn Leu Ser Arg  
 450 455 460  
 Tyr Asn Leu Pro Phe Ile Thr Tyr Lys Asn Ala Ala Gly Leu Pro Ser  
 465 470 475 480  
 Ala Trp Val Ser Glu Asp Ala Lys Ala Ile Leu Glu Lys Ala Ala Ile  
 485 490 495  
 Lys Tyr Trp Thr Pro Leu Glu Val Ile Ile Leu His Leu Ser Tyr Phe  
 500 505 510  
 Phe His Lys Ser Ser Gln Glu Phe Leu Gly Ile Gln Glu Val Arg Ser  
 515 520 525  
 Met Ile Glu Phe Met Glu Arg Ser Phe Pro Asp Leu Val Lys Glu Val  
 530 535 540  
 Thr Arg Leu Ile Pro Leu Gln Lys Leu Thr Glu Ile Phe Lys Arg Leu  
 545 550 555 560  
 Val Gln Glu Gln Ile Ser Ile Lys Asp Leu Arg Thr Ile Leu Glu Ser  
 565 570 575  
 Leu Ser Glu Trp Ala Gln Thr Glu Lys Asp Thr Val Leu Leu Thr Glu  
 580 585 590  
 Tyr Val Arg Ser Ser Leu Lys Leu Tyr Ile Ser Phe Lys Phe Ser Gln  
 595 600 605  
 Gly Gln Ser Ala Ile Ser Val Tyr Leu Leu Asp Pro Glu Ile Glu Glu  
 610 615 620  
 Met Ile Arg Gly Ala Ile Lys Gln Thr Ser Ala Gly Ser Tyr Leu Ala  
 625 630 635 640  
 Leu Asp Pro Asp Ser Val Asn Leu Ile Leu Lys Ser Met Arg Asn Thr  
 645 650 655  
 Ile Thr Pro Thr Pro Ala Gly Gly Gln Pro Pro Val Leu Leu Thr Ala  
 660 665 670  
 Ile Asp Val Arg Arg Tyr Val Arg Lys Leu Ile Glu Thr Glu Phe Pro  
 675 680 685  
 Asp Ile Ala Val Ile Ser Tyr Gln Glu Ile Leu Pro Glu Ile Arg Ile  
 690 695 700  
 Gln Pro Leu Gly Arg Ile Gln Ile Phe  
 705 710

<210> 326  
 <211> 407  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 326  
 Tyr Val Val Ala His Arg Arg His Met Ala Ala Ser Gly Gly Thr Gly  
 1 5 10 15  
 Gly Leu Gly Gly Thr Gln Gly Val Asn Leu Ala Ala Val Glu Ala Ala  
 20 25 30  
 Ala Ala Lys Ala Asp Ala Ala Glu Val Val Ala Ser Gln Glu Gly Ser  
 35 40 45  
 Glu Met Asn Met Ile Gln Gln Ser Gln Asp Leu Thr Asn Pro Ala Ala  
 50 55 60  
 Ala Thr Arg Thr Lys Lys Lys Glu Glu Lys Phe Gln Thr Leu Glu Ser  
 65 70 75 80  
 Arg Lys Lys Gly Glu Ala Gly Lys Ala Glu Lys Lys Ser Glu Ser Thr  
 85 90 95  
 Glu Glu Lys Pro Asp Thr Asp Leu Ala Asp Lys Tyr Ala Ser Gly Asn  
 100 105 110  
 Ser Glu Ile Ser Gly Gln Glu Leu Arg Gly Leu Arg Asp Ala Ile Gly  
 115 120 125  
 Asp Asp Ala Ser Pro Glu Asp Ile Leu Ala Leu Val Gln Glu Lys Ile  
 130 135 140

Lys Asp Pro Ala Leu Gln Ser Thr Ala Leu Asp Tyr Leu Val Gln Thr  
 145 150 155 160  
 Thr Pro Pro Ser Gln Gly Lys Leu Lys Glu Ala Leu Ile Gln Ala Arg  
 165 170 175  
 Asn Thr His Thr Glu Gln Phe Gly Arg Thr Ala Ile Gly Ala Lys Asn  
 180 185 190  
 Ile Leu Phe Ala Ser Gln Glu Tyr Ala Asp Gln Leu Asn Val Ser Pro  
 195 200 205  
 Ser Gly Leu Arg Ser Leu Tyr Leu Glu Val Thr Gly Asp Thr His Thr  
 210 215 220  
 Cys Asp Gln Leu Leu Ser Met Leu Gln Asp Arg Tyr Thr Tyr Gln Asp  
 225 230 235 240  
 Met Ala Ile Val Ser Ser Phe Leu Met Lys Gly Met Ala Thr Glu Leu  
 245 250 255  
 Lys Arg Gln Gly Pro Tyr Val Pro Ser Ala Gln Leu Gln Val Leu Met  
 260 265 270  
 Thr Glu Thr Arg Asn Leu Gln Ala Val Leu Thr Ser Tyr Asp Tyr Phe  
 275 280 285  
 Glu Ser Arg Val Pro Ile Leu Leu Asp Ser Leu Lys Ala Glu Gly Ile  
 290 295 300  
 Gln Thr Pro Ser Asp Leu Asn Phe Val Lys Val Ala Glu Ser Tyr His  
 305 310 315 320  
 Lys Ile Ile Asn Asp Lys Phe Pro Thr Ala Ser Lys Val Glu Arg Glu  
 325 330 335  
 Val Arg Asn Leu Ile Gly Asp Asp Val Asp Ser Val Thr Gly Val Leu  
 340 345 350  
 Asn Leu Phe Phe Ser Ala Leu Arg Gln Thr Ser Ser Arg Leu Phe Ser  
 355 360 365  
 Ser Ala Asp Lys Arg Gln Gln Leu Gly Ala Met Ile Ala Asn Ala Leu  
 370 375 380  
 Asp Ala Val Asn Ile Asn Asn Glu Asp Tyr Pro Lys Ala Ser Asp Phe  
 385 390 395 400  
 Pro Lys Pro Tyr Pro Trp Ser  
 405

<210> 327  
 <211> 151  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 327  
 Lys Arg Ile Ala Met Gln Asn Gln Tyr Glu Gln Leu Leu Glu Ser Leu  
 1 5 10 15  
 Ala Pro Leu Leu Asn Thr Thr Leu Ala Pro Asp Lys Asn Asn Ser Cys  
 20 25 30  
 Leu Ile Arg Phe Ser Asp Thr His Val Pro Val Gln Ile Glu Glu Asp  
 35 40 45  
 Gly Asn Ser Gly Asp Leu Ala Val Ser Thr Leu Leu Gly Thr Leu Pro  
 50 55 60  
 Glu Asn Val Phe Arg Glu Arg Ile Phe Lys Ala Ala Leu Ser Val Asn  
 65 70 75 80  
 Gly Ser Phe Gln Ser Ser Ile Lys Gly Ile Leu Gly Tyr Gly Glu Val  
 85 90 95  
 Thr Gln Gln Leu Tyr Leu Ser Asp Ile Leu Ser Met Asn Tyr Leu Asn  
 100 105 110  
 Gly Glu Lys Leu Phe Glu Tyr Leu Lys Leu Phe Ser Leu His Ala Lys  
 115 120 125  
 Ile Trp Met Glu Ser Leu Arg Thr Gly Asn Leu Pro Asp Leu His Val  
 130 135 140  
 Leu Gly Ile Tyr Tyr Val Ala  
 145 150

<210> 328  
 <211> 536  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 328  
 Pro Ser Cys Phe Gly Asn Leu Leu Arg Arg Val Asn Val Leu Lys Tyr  
 1 5 10 15  
 Thr Lys His Ser Pro Ser Ala His Ala Trp Lys Leu Ile Gly Thr Ser  
 20 25 30  
 Pro Lys His Gly Ile Tyr Leu Pro Leu Phe Ser Ile His Thr Lys Asn  
 35 40 45  
 Ser Cys Gly Ile Gly Glu Phe Leu Asp Leu Ile Pro Leu Ile Ser Trp  
 50 55 60  
 Cys Gln Lys Gln Gly Phe Ser Val Ile Gln Leu Leu Pro Leu Asn Asp  
 65 70 75 80  
 Thr Gly Glu Asp Thr Ser Pro Tyr Asn Ser Ile Ser Ser Val Ala Leu  
 85 90 95  
 Asn Pro Leu Phe Leu Ser Leu Ser Ser Leu Pro Asn Ile Asp Thr Ile  
 100 105 110  
 Pro Glu Val Ala Lys Lys Leu Gln Asp Met His Glu Leu Cys Ser Thr  
 115 120 125  
 Pro Ser Val Ser Tyr Thr Gln Val Lys Glu Lys Lys Trp Ala Phe Leu  
 130 135 140  
 Arg Glu Tyr Tyr Gln Lys Cys Cys Lys Ser Ser Leu Glu Gly Asn Ser  
 145 150 155 160  
 Asn Phe Ser Glu Phe Leu Glu Ser Glu Arg Tyr Trp Leu Tyr Pro Tyr  
 165 170 175  
 Gly Thr Phe Arg Ala Ile Lys His His Met His Gly Glu Pro Ile Asn  
 180 185 190  
 Asn Trp Pro Lys Ser Leu Thr Asp Gln Glu Asn Phe Pro Asp Leu Thr  
 195 200 205  
 Lys Lys Phe His Asp Glu Val Leu Phe Phe Ser Tyr Trp Leu Gln Phe Leu  
 210 215 220  
 Cys Tyr Gln Gln Leu Cys Glu Val Lys Ala Tyr Ala Asp Gln His His  
 225 230 235 240  
 Val Leu Leu Lys Gly Asp Leu Pro Ile Leu Ile Ser Lys Asp Ser Cys  
 245 250 255  
 Asp Val Trp Tyr Phe Arg Asp Tyr Phe Ser Ser Ser Arg Ser Val Gly  
 260 265 270  
 Ala Pro Pro Asp Leu Tyr Asn Ser Glu Gly Gln Asn Trp His Leu Pro  
 275 280 285  
 Ile Tyr Asn Phe Ser Gln Leu Ala Lys Asp Asp Tyr Ile Trp Trp Lys  
 290 295 300  
 Glu Arg Leu Arg Tyr Ala Gln Asn Phe Tyr Ser Val Tyr Arg Leu Asp  
 305 310 315 320  
 His Ile Ile Gly Phe Phe Arg Leu Trp Ile Trp Asp Ser Ser Gly Arg  
 325 330 335  
 Gly Arg Phe Ile Pro Asp Asn Pro Lys Asp Tyr Ile Lys Gln Gly Thr  
 340 345 350  
 Glu Ile Leu Ser Thr Met Leu Gly Ala Ser Ser Met Leu Pro Ile Gly  
 355 360 365  
 Glu Asp Leu Gly Ile Ile Pro Gln Asp Val Lys Thr Thr Leu Thr His  
 370 375 380  
 Leu Gly Ile Cys Gly Thr Arg Ile Pro Arg Trp Glu Arg Asn Trp Glu  
 385 390 395 400  
 Ser Asp Ser Ala Phe Ile Pro Leu Lys Asp Tyr Asn Pro Leu Ser Val  
 405 410 415  
 Thr Thr Leu Ser Thr His Asp Ser Asp Thr Phe Ala Gln Trp Trp Leu  
 420 425 430

Asn Ser Pro Lys Glu Ala Lys Gln Phe Ala Lys Phe Leu His Leu Pro  
           435                          440                  445  
 Phe Gln Lys Thr Leu Thr Thr Glu Thr Gln Ile Asp Ile Leu Lys Leu  
           450                          455                  460  
 Ser His Glu Ser Ala Ser Ile Phe His Ile Asn Leu Phe Asn Asp Tyr  
 465                          470                          475                  480  
 Leu Ala Leu Cys Pro Asp Leu Val Ser Lys Asn Leu Gln Arg Glu Arg  
                           485                          490                  495  
 Ile Asn Thr Pro Gly Thr Ile Ser Lys Lys Asn Trp Ser Tyr Arg Val  
                           500                          505                  510  
 Arg Pro Ser Leu Glu Glu Leu Ala Ile His Lys Lys Phe Asn Gly Tyr  
           515                          520                  525  
 Ile Glu Lys Ile Leu Thr Gly Leu  
           530                          535

<210> 329  
 <211> 95  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 329  
 Arg Ile His Arg Lys Asn Met Ser Arg Lys Cys Pro Leu Thr Gly Lys  
   1                          5                          10                  15  
 Arg Pro Arg Arg Gly Tyr Ser Tyr Thr Leu Arg Gly Ile Ala Lys Lys  
                           20                          25                  30  
 Lys Lys Gly Ile Gly Leu Lys Val Thr Gly Lys Thr Lys Arg Arg Phe  
           35                          40                          45  
 Phe Pro Asn Met Leu Thr Lys Arg Leu Trp Ser Thr Glu Glu Asn Arg  
           50                          55                          60  
 Phe Leu Lys Leu Lys Ile Ser Ala Ser Ala Leu Arg His Ile Asp Lys  
 65                          70                          75                  80  
 Leu Gly Leu Glu Lys Val Leu Glu Arg Ala Lys Ser Lys Asn Phe  
                           85                          90                  95

<210> 330  
 <211> 591  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 330  
 Leu Lys Tyr Arg Glu Ile Phe Met Ser Phe Leu Arg Arg His Ile Ser  
   1                          5                          10                  15  
 Leu Phe Arg Ser Gln Lys Gln Leu Ile Asp Val Phe Ala Pro Val Ser  
                           20                          25                  30  
 Pro Asn Leu Glu Leu Ala Glu Ile His Arg Arg Val Ile Glu Asp Gln  
           35                          40                          45  
 Gly Pro Ala Leu Leu Phe His Asn Val Ile Gly Ser Ser Phe Pro Val  
           50                          55                          60  
 Leu Thr Asn Leu Phe Gly Thr Lys His Arg Val Asp Gln Leu Phe Ser  
 65                          70                          75                  80  
 Gln Ala Pro Asp Asn Leu Ile Ala Arg Val Ala His Leu Ile Ser Ser  
                           85                          90                  95  
 Thr Pro Lys Leu Ser Ser Leu Trp Lys Ser Arg Asp Leu Leu Lys Arg  
                           100                          105                  110  
 Ile Ser Ser Leu Gly Leu Lys Lys Ala Arg Phe Arg Arg Phe Pro Phe  
           115                          120                          125  
 Val Ser Met Ser Ser Val Asn Leu Asp His Leu Pro Leu Leu Thr Ser  
           130                          135                          140  
 Trp Pro Glu Asp Gly Gly Ala Phe Leu Thr Leu Pro Leu Val Tyr Thr  
 145                          150                          155                  160

Glu Ser Pro Thr Leu Thr Thr Pro Asn Leu Gly Met Tyr Arg Val Gln  
 165 170 175  
 Arg Phe Asn Gln Asn Thr Met Gly Leu His Phe Gln Ile Gln Lys Gly  
 180 185 190  
 Gly Gly Met His Leu Tyr Glu Ala Glu Gln Lys Lys Gln Asn Leu Pro  
 195 200 205  
 Val Ser Val Phe Leu Ser Gly Asn Pro Phe Leu Thr Leu Ser Ala Ile  
 210 215 220  
 Ala Pro Leu Pro Glu Asn Val Ser Glu Leu Leu Phe Ala Thr Phe Leu  
 225 230 235 240  
 Gln Gly Ala Lys Leu Leu Tyr Lys Lys Thr Asn Asp His Pro His Pro  
 245 250 255  
 Leu Leu Tyr Asp Ala Glu Phe Ile Leu Val Gly Glu Ser Pro Ala Gly  
 260 265 270  
 Lys Arg Arg Pro Glu Gly Pro Phe Gly Asp His Phe Gly Tyr Tyr Ser  
 275 280 285  
 Leu Gln His Asp Phe Pro Glu Phe His Cys His Lys Ile Tyr His Arg  
 290 295 300  
 Lys Asp Ala Ile Tyr Pro Ala Thr Val Val Gly Lys Pro Tyr Gln Glu  
 305 310 315 320  
 Asp Phe Tyr Ile Gly Asn Lys Leu Gln Glu Tyr Leu Ser Pro Leu Phe  
 325 330 335  
 Pro Leu Val Met Pro Gly Val Arg Arg Leu Lys Ser Tyr Gly Glu Ser  
 340 345 350  
 Gly Phe His Ala Leu Thr Ala Ala Val Val Lys Glu Arg Tyr Trp Arg  
 355 360 365  
 Glu Ser Leu Thr Thr Ala Leu Arg Ile Leu Gly Glu Gly Gln Leu Ser  
 370 375 380  
 Leu Thr Lys Phe Leu Met Val Thr Asp Gln Glu Val Pro Leu Asp Arg  
 385 390 395 400  
 Phe Ser Val Val Leu Glu Thr Ile Leu Glu Arg Leu Gln Pro Asp Arg  
 405 410 415  
 Asp Leu Ile Ile Phe Ser Glu Thr Ala Asn Asp Thr Leu Asp Tyr Thr  
 420 425 430  
 Gly Pro Ser Leu Asn Lys Gly Ser Lys Gly Ile Phe Met Gly Ile Gly  
 435 440 445  
 Lys Ala Ile Arg Asp Leu Pro His Gly Tyr Gln Gly Gly Lys Ile His  
 450 455 460  
 Gly Val Gln Asp Ile Ala Pro Phe Cys Arg Gly Cys Leu Val Leu Glu  
 465 470 475 480  
 Thr Ser Leu Glu Asp Arg Cys Ile Lys Ser Leu Leu His His Pro Asp  
 485 490 495  
 Leu Lys Ser Trp Pro Leu Ile Ile Leu Ala Asp Asn Leu Arg Glu Thr  
 500 505 510  
 Ile Gln Ser Glu Lys Asp Phe Leu Trp Arg Thr Phe Thr Arg Cys Ala  
 515 520 525  
 Pro Ala Asn Asp Leu His Ala Leu His Ser His Phe Ala Thr His Arg  
 530 535 540  
 Pro Asn Tyr Asn Phe Pro Phe Val Ile Asp Ala Leu Met Lys Pro Ser  
 545 550 555 560  
 Tyr Pro Lys Glu Val Glu Val Asp Pro Ser Thr Lys Gln Lys Val Ser  
 565 570 575  
 Glu Arg Trp His Ala Tyr Phe Pro Asn Lys Glu Thr Phe Tyr Ile  
 580 585 590

<210> 331

<211> 354

<212> PRT

<213> Chlamydia pneumoniae

<400> 331

Lys	Met	Asn	Lys	Arg	Gln	Lys	Asp	Lys	Leu	Lys	Ile	Cys	Val	Ile	Ile
1			5					10						15	
Ser	Thr	Leu	Ile	Leu	Val	Gly	Ile	Phe	Ala	Arg	Ala	Pro	Arg	Gly	Asp
		20					25					30			
Thr	Phe	Lys	Thr	Phe	Leu	Lys	Ser	Glu	Glu	Ala	Ile	Ile	Tyr	Ser	Asn
	35					40					45				
Gln	Cys	Asn	Glu	Asp	Met	Arg	Lys	Ile	Leu	Cys	Asp	Ala	Ile	Glu	His
	50				55					60					
Ala	Asp	Glu	Glu	Ile	Phe	Leu	Arg	Ile	Tyr	Asn	Leu	Ser	Glu	Pro	Lys
65					70				75					80	
Ile	Gln	Gln	Ser	Leu	Thr	Arg	Gln	Ala	Gln	Ala	Lys	Asn	Lys	Val	Thr
			85					90						95	
Ile	Tyr	Tyr	Gln	Lys	Phe	Lys	Ile	Pro	Gln	Ile	Leu	Lys	Gln	Ala	Ser
	100						105						110		
Asn	Val	Thr	Leu	Val	Glu	Gln	Pro	Pro	Ala	Gly	Arg	Lys	Leu	Met	His
	115					120						125			
Gln	Lys	Ala	Leu	Ser	Ile	Asp	Lys	Lys	Asp	Ala	Trp	Leu	Gly	Ser	Ala
	130					135					140				
Asn	Tyr	Thr	Asn	Leu	Ser	Leu	Arg	Leu	Asp	Asn	Asn	Leu	Ile	Leu	Gly
145				150					155					160	
Met	His	Ser	Ser	Glu	Leu	Cys	Asp	Leu	Ile	Ile	Thr	Asn	Thr	Ser	Gly
			165					170						175	
Asp	Phe	Ser	Ile	Lys	Asp	Gln	Thr	Gly	Lys	Tyr	Phe	Val	Leu	Pro	Gln
	180						185						190		
Asp	Arg	Lys	Ile	Ala	Ile	Gln	Ala	Val	Leu	Glu	Lys	Ile	Gln	Thr	Ala
	195					200						205			
Gln	Lys	Thr	Ile	Gln	Val	Ala	Met	Phe	Ala	Leu	Thr	His	Ser	Glu	Ile
	210					215					220				
Ile	Gln	Ala	Leu	His	Gln	Ala	Lys	Gln	Arg	Gly	Ile	His	Val	Asp	Ile
225					230					235				240	
Ile	Ile	Asp	Arg	Ser	His	Ser	Lys	Leu	Thr	Phe	Lys	Gln	Leu	Arg	Gln
			245					250						255	
Leu	Asn	Ile	Asn	Lys	Asp	Phe	Val	Ser	Ile	Asn	Thr	Ala	Pro	Cys	Thr
	260						265						270		
Leu	His	His	Lys	Phe	Ala	Val	Ile	Asp	Asn	Lys	Thr	Leu	Leu	Ala	Gly
	275						280					285			
Ser	Ile	Asn	Trp	Ser	Lys	Gly	Arg	Phe	Ser	Leu	Asn	Asp	Glu	Ser	Leu
	290					295					300				
Ile	Ile	Leu	Glu	Asn	Leu	Thr	Lys	Gln	Gln	Asn	Gln	Lys	Leu	Arg	Met
305					310					315				320	
Ile	Trp	Lys	Asp	Leu	Ala	Lys	His	Ser	Glu	His	Pro	Thr	Val	Asp	Asp
			325						330					335	
Glu	Glu	Lys	Glu	Ile	Ile	Glu	Lys	Ser	Leu	Pro	Val	Glu	Glu	Gln	Glu
			340					345					350		

Ala Ala

<210> 332  
 <211> 243  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 332

Phe	Ile	Ser	Ile	Glu	Met	Leu	Leu	Leu	Ser	Arg	Gln	Leu	Phe	Ser	Val
1			5						10					15	
Leu	Pro	Ser	Arg	Phe	Gln	Asp	Leu	His	Val	Tyr	Arg	Phe	Lys	Glu	Ser
		20					25					30			
Leu	Lys	Leu	Leu	Gln	Phe	Met	Thr	Met	Val	Gly	Gly	Glu	Ile	Val	Val
	35						40					45			

Val Leu Ala Glu Ile Lys Glu Glu Asp Leu Arg Ala Arg Lys Leu Pro  
 50 55 60  
 Val Arg Lys Arg Arg Glu Lys Asn Tyr Leu Arg Ile Phe Arg Val Leu  
 65 70 75 80  
 Ser Arg Phe Asp Val Met Arg Ile Ile Arg Phe Asp Pro Tyr Gly Ala  
 85 90 95  
 Leu Ser Ala Gln Ser Ile Ala Lys Asp Ser Arg Gln Asn Ser Pro Leu  
 100 105 110  
 Val Glu Lys Ile Ser Glu Glu Ile Ala Thr Asn Glu Ala Ile Arg Leu  
 115 120 125  
 Ala Leu Leu Ala Ile Gly Asp Arg Glu Gln Glu Glu Lys Lys Gln Arg  
 130 135 140  
 His Arg Tyr Lys Leu Leu Gly Gln Lys Gln Ala Lys Val Leu Leu Ser  
 145 150 155 160  
 Gln Leu Arg His Val His Leu Asp Phe Lys Lys Leu Tyr Cys Asp Ser  
 165 170 175  
 Lys Lys Lys Glu Asp Gln Glu Lys Asp Glu Lys Asn Lys Gln Lys Arg  
 180 185 190  
 Ser Ile Lys Val Thr Lys Lys Lys Lys Gly Ile Ser Leu Gly Ala Ala  
 195 200 205  
 Ala Ser Gln Ala Ile Ala Ala Ala Glu Ala Trp Val Ile Ala Arg  
 210 215 220  
 Asn Lys Gly Val Leu Glu Thr Ala Ser Thr Leu Phe Tyr Gln Lys Asp  
 225 230 235 240  
 Glu Glu Ala

<210> 333  
 <211> 584  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 333  
 Ile Gln Arg Ile Ile Met Ala Val Ser Gly Gly Gly Gly Val Gln Pro  
 1 5 10 15  
 Ser Ser Asp Pro Gly Lys Trp Asn Pro Ala Leu Gln Gly Glu Gln Ala  
 20 25 30  
 Glu Gly Pro Ser Pro Leu Lys Glu Ser Ile Phe Ser Glu Thr Lys Gln  
 35 40 45  
 Ala Ser Ser Ala Ala Lys Gln Glu Ser Leu Val Arg Ser Gly Ser Thr  
 50 55 60  
 Gly Met Tyr Ala Thr Glu Ser Gln Ile Asn Lys Ala Lys Tyr Arg Lys  
 65 70 75 80  
 Ala Gln Asp Arg Ser Ser Thr Ser Pro Lys Ser Lys Leu Lys Gly Thr  
 85 90 95  
 Phe Ser Lys Met Arg Ala Ser Val Gln Gly Phe Met Ser Gly Phe Gly  
 100 105 110  
 Ser Arg Ala Ser Arg Val Ser Ala Lys Arg Ala Ser Asp Ser Gly Glu  
 115 120 125  
 Gly Thr Ser Leu Leu Pro Thr Glu Met Asp Val Ala Leu Lys Lys Gly  
 130 135 140  
 Asn Arg Ile Ser Pro Glu Met Gln Gly Phe Phe Leu Asp Ala Ser Gly  
 145 150 155 160  
 Met Gly Gly Ser Ser Ser Asp Ile Ser Gln Leu Ser Leu Glu Ala Leu  
 165 170 175  
 Lys Ser Ser Ala Phe Ser Gly Ala Arg Ser Leu Ser Leu Ser Ser Ser  
 180 185 190  
 Glu Ser Ser Ser Val Ala Ser Phe Gly Ser Phe Gln Lys Ala Ile Glu  
 195 200 205  
 Pro Met Ser Glu Glu Lys Val Asn Ala Trp Thr Val Ala Arg Leu Gly  
 210 215 220



Gly Glu Met Val Ser Ser Leu Leu Asp Pro Asn Val Glu Thr Ser Ser  
 225 230 235 240  
 Leu Val Arg Arg Ala Met Ala Thr Gly Asn Glu Gly Met Ile Asp Leu  
 245 250 255  
 Ser Asp Leu Gly Gln Glu Glu Val Ser Thr Ala Met Thr Ser Pro Arg  
 260 265 270  
 Ala Val Glu Gly Lys Val Lys Val Ser Ser Ser Asp Ser Pro Glu Ala  
 275 280 285  
 Asn Pro Thr Gly Ile Pro Asn Ser Asn Thr Leu Glu Arg Ala Glu Lys  
 290 295 300  
 Glu Ala Glu Lys Gln Glu Ser Arg Glu Gln Leu Ser Glu Asp Gln Met  
 305 310 315 320  
 Met Leu Ala Arg Ala Met Ala Gly Leu Leu Thr Gly Ala Ala Pro Gln  
 325 330 335  
 Glu Val Leu Ser Asn Ser Val Trp Ser Gly Pro Ser Thr Val Phe Pro  
 340 345 350  
 Pro Pro Lys Phe Ser Gly Thr Leu Pro Thr Gln Arg Ser Gly Asp Lys  
 355 360 365  
 Ser Lys His Lys Ser Pro Gly Ile Glu Lys Ser Thr Asn His Thr Asn  
 370 375 380  
 Phe Ser Pro Leu Arg Glu Gly Thr Val Lys Ser Ala Glu Val Lys Ser  
 385 390 395 400  
 Leu Pro His Pro Glu Ser Met Tyr Arg Phe Pro Lys Asp Ser Ile Val  
 405 410 415  
 Ser Arg Glu Glu Pro Glu Ala Val Val Lys Glu Ser Thr Ala Phe Lys  
 420 425 430  
 Asn Pro Glu Asn Ser Ser Gln Asn Phe Leu Pro Ile Ala Val Glu Ser  
 435 440 445  
 Val Phe Pro Lys Glu Ser Gly Thr Gly Gly Ala Leu Gly Ser Asp Ala  
 450 455 460  
 Val Ser Ser Ser Tyr His Phe Leu Ala Gln Arg Gly Val Ser Leu Leu  
 465 470 475 480  
 Ala Pro Leu Pro Arg Ala Thr Asp Asp Tyr Lys Glu Lys Leu Glu Ala  
 485 490 495  
 His Lys Gly Pro Gly Gly Pro Pro Asp Pro Leu Ile Tyr Gln Tyr Arg  
 500 505 510  
 Asn Val Ala Val Glu Pro Pro Ile Val Leu Arg Ser Pro Gln Pro Phe  
 515 520 525  
 Ser Gly Ser Ser Arg Leu Ser Val Gln Gly Lys Pro Glu Ala Ala Ser  
 530 535 540  
 Val His Asp Asp Gly Gly Gly Asn Ser Gly Gly Phe Ser Gly Asp  
 545 550 555 560  
 Gln Arg Arg Gly Ser Ser Gly Gln Lys Ala Ser Arg Gln Glu Lys Lys  
 565 570 575  
 Gly Lys Lys Leu Ser Thr Asp Ile  
 580

<210> 334

<211> 47

<212> PRT

<213> Chlamydia pneumoniae

<400> 334

Tyr Leu Asp Ser Arg Ile Arg Val Ile Pro Leu Ala Arg Gln Arg Cys  
 1 5 10 15  
 Thr Leu Leu His Leu Leu Ala Val Leu Cys Pro Pro Ile Ser Phe Phe  
 20 25 30  
 Thr Gln Gly Val Ser Pro Cys Val Phe Phe Cys Phe Leu Asp Phe  
 35 40 45

<210> 335  
 <211> 106  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 335  
 Val Asp Phe Phe Val Phe Val Phe Phe Met Gly Lys Pro Lys Lys Ser  
 1 5 10 15  
 Arg Thr Asp Arg Ala Leu Ala Gln Glu Ile Gln Lys Lys Ser Thr Glu  
 20 25 30  
 Val Leu Lys Lys Pro Ala Arg Ile Lys Ala Lys Asn Arg Arg Lys Phe  
 35 40 45  
 Leu Ile Ala Lys Glu Gln Lys Thr Leu Lys His Arg Ala Gln Glu Tyr  
 50 55 60  
 Asp Gln Leu Val Arg Ser Leu Leu Asp Ser Gln Lys Lys Asp Thr Asp  
 65 70 75 80  
 Lys Val Leu Ile Phe Asn Tyr Glu Asn Gly Phe Val Phe Thr Asp Lys  
 85 90 95  
 Asp His Phe Ser Lys Tyr Ser Ile Arg Leu  
 100 105

<210> 336  
 <211> 172  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 336  
 Thr Met Ser Val His Ile Thr Pro Arg Lys Cys Phe Ile Leu Cys Ile  
 1 5 10 15  
 Leu Ser Met Phe Thr Leu Pro Thr Leu Phe Pro Lys Ala His Leu Ile  
 20 25 30  
 Leu Phe Ser Pro Tyr Ile Val Leu Cys Phe Tyr Cys Phe Ser Lys Asp  
 35 40 45  
 Lys Gly Leu Val Leu Ala Leu Gly Cys Gly Val Leu Ser Asp Leu Ala  
 50 55 60  
 Leu Gly Ser Arg Gly Val Phe Leu Leu Leu Tyr Pro Leu Thr Ala Leu  
 65 70 75 80  
 Ile Thr His Lys Ala His Leu Ile Phe Ser Lys Glu Ser Lys Ala Ala  
 85 90 95  
 Leu Val Ile Val Asn Met Ile Phe Tyr Gly Val Phe Leu Leu Thr  
 100 105 110  
 Ile Pro Met Cys Ala Leu Phe Gly His Glu Val Arg Trp Ser Ile Asp  
 115 120 125  
 Val Leu Met Ile Pro Leu Lys Cys Ser Phe Leu Asp Asn Leu Ile Phe  
 130 135 140  
 Thr Ser Val Ile Tyr Ile Leu Pro Cys Ala Ile Asn Ser Gly Ile His  
 145 150 155 160  
 Lys Met Ile Ser Phe Phe Arg Arg Leu Val Cys Tyr  
 165 170

<210> 337  
 <211> 289  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 337  
 Glu Ile Gly Met Leu Leu Arg Gly Ile Pro Ala Ala Glu Lys Ile Leu  
 1 5 10 15  
 Gln Arg Leu Lys Glu Glu Ile Ser Gln Ser Pro Thr Ser Pro Gly Leu  
 20 25 30

Ala Val Val Leu Ile Gly Asn Asp Pro Ala Ser Glu Val Tyr Val Gly  
 35 40 45  
 Met Lys Val Lys Lys Ala Thr Glu Ile Gly Ile Ile Ser Lys Ala His  
 50 55 60  
 Lys Leu Pro Ser Asp Ser Thr Leu Ser Ser Val Leu Lys Leu Ile Glu  
 65 70 75 80  
 Arg Leu Asn Gln Asp Pro Ser Ile His Gly Ile Leu Val Gln Leu Pro  
 85 90 95  
 Leu Pro Lys His Leu Asp Ser Glu Val Ile Leu Gln Ala Ile Ser Pro  
 100 105 110  
 Asp Lys Asp Val Asp Gly Leu His Pro Val Asn Met Gly Lys Leu Leu  
 115 120 125  
 Leu Gly Asn Phe Asp Gly Leu Leu Pro Cys Thr Pro Ala Gly Ile Ile  
 130 135 140  
 Glu Leu Leu Asn Tyr Tyr Glu Ile Pro Leu Arg Gly Arg His Ala Ala  
 145 150 155 160  
 Ile Val Gly Arg Ser Asn Ile Val Gly Lys Pro Leu Ala Ala Leu Met  
 165 170 175  
 Met Gln Lys His Pro Gln Thr Asn Cys Thr Val Thr Val Leu His Ser  
 180 185 190  
 Gln Ser Glu Asn Leu Pro Glu Ile Leu Lys Thr Ala Asp Ile Ile Ile  
 195 200 205  
 Ala Ala Leu Gly Ala Pro Leu Phe Ile Lys Glu Thr Met Val Ala Pro  
 210 215 220  
 His Ala Val Ile Val Asp Val Gly Thr Thr Arg Val Pro Ala Asp Asn  
 225 230 235 240  
 Ala Lys Gly Tyr Thr Leu Leu Gly Asp Val Asp Phe Asn Asn Val Val  
 245 250 255  
 Thr Lys Cys Ala Ala Ile Thr Pro Val Pro Gly Gly Val Gly Pro Met  
 260 265 270  
 Thr Val Ala Met Leu Met Ser Asn Thr Trp Arg Cys Tyr Gln Asn Phe  
 275 280 285  
 Ser

<210> 338  
 <211> 341  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 338  
 Arg Cys Asp Lys Met Arg Ser Asn His Ser Ser Ser Trp Arg Arg Trp  
 1 5 10 15  
 Ser His Asp Cys Arg Tyr Ala His Glu Gln Tyr Met Ala Met Leu Pro  
 20 25 30  
 Lys Phe Phe Leu Val Leu Leu Cys Leu Gly Leu Cys Ser Cys Ser Gln  
 35 40 45  
 Lys Thr Thr Thr Ile Glu Gly Glu Gln Met Thr Ile Phe Tyr Arg Ile  
 50 55 60  
 Val Leu Gly Thr Ser Leu Ser Ala Lys Glu Lys Ala Ser Leu Ser Gln  
 65 70 75 80  
 Gln Ile Asp Arg Cys Phe His Lys Ile Asp Ser Ile Tyr Asn Asn Trp  
 85 90 95  
 Asn Pro Tyr Ser Glu Leu Ser Ile Ile Asn Arg Ala Pro Ala Asp Val  
 100 105 110  
 Pro Ile Thr Leu Ser Val Glu Leu Ser Glu Phe Leu Asp Gln Val Asp  
 115 120 125  
 Thr Leu Tyr Lys Leu Ser Glu Gly Arg Phe Asp Pro Thr Val Gly Pro  
 130 135 140  
 Leu Lys Thr Leu Trp Leu Leu His Leu Lys Ser Gln Thr Leu Pro Pro  
 145 150 155 160

Lys Asp Val Trp Glu Gln His Tyr Lys Asp Met Gly Trp Gln His Leu  
 165 170 175  
 Glu Phe Gln Ser Asn Thr Lys Thr Leu Ile Lys Lys Asn Pro His Val  
 180 185 190  
 Gln Ile Asp Leu Cys Gly Val Val Lys Gly Tyr Ala Val Asp Cys Leu  
 195 200 205  
 Asn Glu Ile Cys Asn Thr Phe Cys Pro Asn Asn Tyr Val Glu Trp Gly  
 210 215 220  
 Gly Glu Ile Lys Thr Ser Gly His His Pro Ser Gly Arg Pro Trp Arg  
 225 230 235 240  
 Ile Phe Ser Glu Ala Ala Gly Thr Ile Leu Asp Ile Asp Asp Met Ala  
 245 250 255  
 Ile Ala Thr Ser Gly Asn His Ile Gln Lys Trp Cys Val Glu Gly Lys  
 260 265 270  
 Ile Tyr Thr His Ile Leu Asp Thr Arg Thr Gly Lys Pro Leu Glu Leu  
 275 280 285  
 Ser Ser Tyr Pro Ile Gln Ser Val Ser Val Val His Pro Ser Cys Ala  
 290 295 300  
 Tyr Ala Asp Ala Ile Ala Thr Val Leu Met Thr Phe Asp Ser Lys Ile  
 305 310 315 320  
 Glu Ala Lys Gln Trp Ala Glu Glu His His Ile Leu Thr Tyr Ile Asn  
 325 330 335  
 Asp Gly Ala Ser Ser  
 340

<210> 339  
 <211> 189  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 339  
 Ile Glu Glu Ile Phe Pro Gly Asn Gln Gly Lys Arg Ile Leu Ile Ile  
 1 5 10 15  
 Val Leu Arg Arg Lys Asn Cys Phe Leu Leu Tyr Trp Phe Leu Ser Pro  
 20 25 30  
 Ile Met Gly Glu Asp Leu Met Ala Gln Lys Glu Ile Val Ser Asn Arg  
 35 40 45  
 Lys Ala Leu Arg Asn Tyr Glu Val Ile Glu Thr Leu Glu Ala Gly Ile  
 50 55 60  
 Val Leu Thr Gly Thr Glu Ile Lys Ser Leu Arg Asp His Gly Gly Asn  
 65 70 75 80  
 Leu Gly Asp Ala Tyr Val Ile Val Ser Lys Gly Glu Gly Trp Leu Leu  
 85 90 95  
 Asn Ala Ser Ile Ala Pro Tyr Arg Phe Gly Asn Ile Tyr Asn His Glu  
 100 105 110  
 Glu Arg Arg Lys Arg Lys Leu Leu Leu His Arg Tyr Glu Leu Arg Lys  
 115 120 125  
 Leu Glu Gly Lys Ile Ala Gln Lys Gly Met Thr Leu Ile Pro Leu Gly  
 130 135 140  
 Met Phe Leu Ser Arg Gly Tyr Val Lys Val Arg Leu Gly Cys Cys Arg  
 145 150 155 160  
 Gly Lys Lys Ala Tyr Asp Lys Arg Arg Thr Ile Ile Glu Arg Glu Lys  
 165 170 175  
 Glu Arg Glu Val Ala Ala Ala Met Lys Arg Arg His His  
 180 185

<210> 340  
 <211> 368  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 340

Glu	Asn	Met	Lys	Phe	Val	Val	Ser	Arg	Asn	Glu	Leu	Gly	Asn	Leu	Ile
1				5					10					15	
Lys	Lys	Ile	Gln	Ser	Val	Val	Pro	Gln	Asn	Thr	Pro	Ile	Pro	Val	Leu
			20					25					30		
Thr	His	Val	Leu	Ile	Glu	Thr	Tyr	Asn	Asp	Glu	Leu	Val	Phe	Thr	Ala
	35						40					45			
Thr	Asp	Leu	Thr	Val	Ser	Thr	Arg	Cys	Val	Thr	Lys	Ala	Lys	Val	Tyr
	50					55					60				
Glu	Lys	Gly	Ala	Ile	Ser	Ile	Pro	Ser	Lys	Arg	Phe	Phe	Gln	Leu	Val
65					70					75				80	
Lys	Glu	Leu	Thr	Glu	Ala	Asn	Leu	Glu	Ile	Ser	Ser	Ser	Ala	Gly	Glu
				85				90						95	
Met	Ala	Gln	Ile	Thr	Ser	Gly	Ser	Ser	Cys	Phe	Arg	Leu	Leu	Ser	Met
		100						105					110		
Glu	Lys	Glu	Asp	Phe	Pro	Met	Leu	Pro	Asp	Ile	Gln	Asn	Ala	Leu	Arg
		115					120					125			
Phe	Ser	Leu	Pro	Ala	Glu	Gln	Leu	Lys	Thr	Met	Leu	Gln	Arg	Thr	Ser
	130					135					140				
Phe	Ala	Val	Ser	Arg	Glu	Glu	Ser	Arg	Tyr	Val	Leu	Thr	Gly	Val	Leu
145					150					155				160	
Leu	Ala	Ile	Ala	Asn	Gly	Val	Ala	Thr	Ile	Val	Gly	Thr	Asp	Gly	Lys
				165					170					175	
Arg	Leu	Ala	Lys	Ile	Asp	Ala	Glu	Val	Thr	Leu	Asp	Lys	Ser	Phe	Ser
		180						185					190		
Gly	Glu	Tyr	Ile	Ile	Pro	Ile	Lys	Ala	Val	Glu	Glu	Ile	Ile	Lys	Met
	195					200						205			
Cys	Ser	Asp	Glu	Gly	Glu	Ala	Ala	Ile	Phe	Leu	Asp	Gln	Asp	Lys	Ile
	210					215					220				
Ala	Val	Glu	Cys	Asp	Asn	Thr	Leu	Leu	Ile	Thr	Lys	Leu	Leu	Ser	Gly
225					230					235				240	
Glu	Phe	Pro	Asp	Phe	Ser	Pro	Val	Ile	Ser	Thr	Glu	Ser	Asn	Val	Lys
				245					250					255	
Leu	Asp	Leu	His	Arg	Glu	Glu	Leu	Ile	Thr	Leu	Leu	Lys	Gln	Val	Ala
		260						265					270		
Leu	Phe	Thr	Asn	Glu	Ser	Ser	His	Ser	Val	Lys	Phe	Ser	Phe	Leu	Pro
		275					280					285			
Gly	Glu	Leu	Thr	Leu	Thr	Ala	Asn	Cys	Thr	Lys	Val	Gly	Glu	Gly	Lys
	290					295					300				
Val	Ser	Met	Ala	Val	Asn	Tyr	Ser	Gly	Glu	Leu	Leu	Glu	Ile	Ala	Phe
305					310					315				320	
Asn	Pro	Phe	Phe	Phe	Leu	Asp	Ile	Leu	Lys	His	Ser	Lys	Asp	Glu	Leu
				325					330					335	
Val	Ser	Leu	Gly	Ile	Ser	Asp	Ser	Tyr	Asn	Pro	Gly	Ile	Ile	Thr	Asp
		340						345				350			
Ser	Ala	Ser	Gly	Leu	Phe	Val	Ile	Met	Pro	Met	Arg	Leu	His	Asp	Asp
		355					360					365			

<210> 341

<211> 210

<212> PRT

<213> Chlamydia pneumoniae

<400> 341

Val	Thr	Thr	Leu	Pro	Met	Phe	Met	Lys	Ile	Cys	Ser	Leu	Lys	Leu	Lys
1				5				10					15		
Asn	Phe	Arg	Asn	His	Ser	Asp	Leu	Glu	Ile	Ser	Leu	Ala	Pro	Lys	Leu
			20					25				30			
Asn	Tyr	Ala	Gln	Gly	Lys	Thr	Asn	Leu	Leu	Glu	Ala	Leu	Tyr	Val	Leu
	35						40					45			

Ser Leu Gly Arg Ser Phe Arg Thr Gln His Leu Thr Asp Thr Ile Thr  
 50 55 60  
 Phe Gly Ser Ser His Phe Phe Leu Glu Thr Gln Phe Glu Lys Asp His  
 65 70 75 80  
 Leu Pro Gln Ala Leu Ser Ile Tyr Thr Asp Lys Gln Gly Lys Lys Ile  
 85 90 95  
 Cys Tyr Asn Gln Leu Pro Ile Lys Thr Leu Ser Gln Leu Ile Gly Lys  
 100 105 110  
 Val Pro Ile Val Leu Phe Ser Ser Lys Asp Arg Leu Leu Ile Ser Gly  
 115 120 125  
 Ala Pro Ala Asp Arg Arg Leu Phe Leu Asn Leu Leu Ser Gln Cys  
 130 135 140  
 Asp Asn His Tyr Thr Leu Cys Leu Ser Tyr Tyr His Arg Ala Leu Gln  
 145 150 155 160  
 Gln Arg Asn Ala Leu Leu Lys Ser Lys Gln Thr Ser Thr Val Ala Ser  
 165 170 175  
 Gly Met Asn Ser Trp Ser Asn Thr Ala Pro Thr Tyr Pro Ser Asn Gly  
 180 185 190  
 Phe Ser Val Val Arg Asn Phe Gln Ile Tyr Pro Lys Asn Phe Gly Leu  
 195 200 205  
 Thr Thr  
 210

<210> 342  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 342  
 Pro Leu Tyr Pro Leu Leu Ile Val Leu Ser Ser Arg Ser Ser Ala Glu  
 1 5 10 15  
 Lys Cys Ser Leu Lys Lys Gln Ala Asn Leu Asn Arg Gly Leu Trp Asp  
 20 25 30  
 Glu Gln Leu Val Lys His Gly Thr Tyr Leu Ser Ile Gln Arg Phe Leu  
 35 40 45  
 Cys Ser Gln Lys Leu Ser Asp Leu Ser Lys Glu Leu Trp Ser Asn Asn  
 50 55 60  
 Leu Lys Glu Gln Leu Ala Leu Lys Phe Lys Ser Ser Leu Ile Lys Asn  
 65 70 75 80  
 Ser Asp Ile Ser Glu Thr Ala Val Ala Glu Glu Phe His Lys Gln Leu  
 85 90 95  
 Ser Ile Ser Leu Pro Arg Asp Leu Glu  
 100 105

<210> 343  
 <211> 112  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 343  
 Gly Ser Thr Ser Val Gly Pro His Arg Glu Asp Phe Leu Leu Thr Met  
 1 5 10 15  
 Asn Gln Met Pro Val Ser Gln Phe Ser Ser Glu Gly Gln Lys His Ser  
 20 25 30  
 Leu Leu Ala Ile Leu Arg Leu Ala Glu Cys Leu Tyr Leu Lys Gln Ser  
 35 40 45  
 His His Val Ser Pro Leu Val Cys Leu Asp Asp Ile His Ala Gly Leu  
 50 55 60  
 Asp Asn Glu Arg Val Gly Gln Leu Leu Asp Pro Ala Pro Thr Leu Gly  
 65 70 75 80

Gln Thr Leu Ile Thr Ser Thr His Met His Gly Glu Leu Pro Lys Thr  
85 90 95  
Ser Leu Val Leu Ser Ile Glu Asn Ala Gln Val Ser Glu Gln Ile Ile  
100 105 110

<210> 344  
<211> 148  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 344  
His Met Lys Lys Phe Leu Leu Thr Ile Leu Phe Leu Ala Val Gly Asn  
1 5 10 15  
Pro Leu Phe Ser Glu Thr Ser Val Ile Gln Thr Leu Pro Ser Gly Ile  
20 25 30  
Gly Gly Leu Lys Glu Thr Ser Lys Gln Lys Glu Ser Val Val Cys Val  
35 40 45  
His Ala Phe Leu Arg Ser Tyr Thr Ser Leu Lys Pro Ile Ala Arg Val  
50 55 60  
Leu Glu Lys Glu His Tyr Asp Val Phe Ile Trp Asn Tyr Glu Thr Arg  
65 70 75 80  
Lys Phe Thr Leu Glu Lys His Ala Glu His Leu Asn Arg Leu Leu Lys  
85 90 95  
Lys Ile Ala Glu Leu Lys Pro Gly Val Pro Ile Asn Phe Val Thr His  
100 105 110  
Ser Ile Gly Gly Val Ile Val Arg Val Ala Leu Ala His Pro Asp Cys  
115 120 125  
Pro Glu Glu Ala Lys Lys Glu Lys Leu Phe Ser Trp Leu Leu Arg Thr  
130 135 140  
Gln Gly Leu His  
145

<210> 345  
<211> 199  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 345  
Leu Pro Arg Arg Ser Gln Lys Arg Lys Ala Ile Leu Met Ala Pro Pro  
1 5 10 15  
Asn Ala Gly Ser Thr Leu Ala Arg Arg Tyr Arg Cys Val Lys Phe Val  
20 25 30  
Gln Phe Val Phe Gly Gly Lys Leu Gly Arg Gln Leu Leu Thr Tyr Cys  
35 40 45  
Pro Thr Lys Met Leu Asn Val Gly Lys Leu Pro Ser Ser Leu Asp Val  
50 55 60  
Leu Ile Leu Ser Gly Asn Arg His Ser Lys Phe Leu Pro Phe Arg Leu  
65 70 75 80  
Pro Tyr Glu Asn Asp Gly Lys Val Cys Thr Ile Glu Thr Lys Leu Asp  
85 90 95  
Thr Pro His Lys Ala Tyr Val Ile His Thr Ser His Thr Tyr Ile Ile  
100 105 110  
Thr Asn Arg Lys Ser Leu Tyr Leu Met Lys Glu Phe Leu Lys Glu Gly  
115 120 125  
Asn Thr Thr Pro Ile Ile Glu His Val Pro Glu Ala Ala Leu Glu Gln  
130 135 140  
Thr Val Met Glu Asp Lys Gln Lys Asn Ser Arg Leu Lys Pro Tyr Pro  
145 150 155 160  
Asn Gln Asp Ile Tyr Val Ile His Cys Phe Gly Ser Arg Pro Tyr Asn  
165 170 175

Leu Tyr Gly Phe Pro Lys Lys Trp Ser Leu Asn Gln Lys Asn Glu Ile  
 180 185 190  
 Asn Pro Glu Lys Leu Glu Lys  
 195

<210> 346  
 <211> 625  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 346  
 Ser Ser Arg Tyr Met Thr Ile Ile Tyr Phe Ile Leu Ala Ala Leu Ala  
 1 5 10 15  
 Leu Gly Ile Leu Val Leu Ile His Glu Leu Gly His Leu Val Val Ala  
 20 25 30  
 Lys Ala Val Gly Met Ala Val Glu Ser Phe Ser Ile Gly Phe Gly Pro  
 35 40 45  
 Ala Leu Phe Lys Lys Arg Ile Gly Gly Ile Glu Tyr Arg Ile Gly Cys  
 50 55 60  
 Ile Pro Phe Gly Gly Tyr Val Arg Ile Arg Gly Met Glu Arg Thr Lys  
 65 70 75 80  
 Glu Lys Gly Glu Lys Gly Lys Ile Asp Ser Val Tyr Asp Ile Pro Gln  
 85 90 95  
 Gly Phe Phe Ser Lys Ser Pro Trp Lys Arg Ile Leu Val Leu Val Ala  
 100 105 110  
 Gly Pro Leu Ala Asn Ile Leu Leu Ala Val Leu Ala Phe Ser Ile Leu  
 115 120 125  
 Tyr Met Asn Gly Gly Arg Ser Lys Asn Tyr Ser Asp Cys Ser Lys Val  
 130 135 140  
 Val Gly Trp Val His Pro Val Leu Gln Ala Glu Gly Leu Leu Pro Gly  
 145 150 155 160  
 Asp Glu Ile Leu Thr Cys Asn Gly Lys Pro Tyr Val Gly Asp Lys Asp  
 165 170 175  
 Met Leu Thr Thr Ser Leu Leu Glu Gly His Leu Asn Leu Glu Ile Lys  
 180 185 190  
 Arg Pro Gly Tyr Leu Thr Val Pro Ser Lys Glu Phe Ala Ile Asp Val  
 195 200 205  
 Glu Phe Asp Pro Thr Lys Phe Gly Val Pro Cys Ser Gly Ala Ser Tyr  
 210 215 220  
 Leu Leu Tyr Ser Asn Gln Val Pro Leu Thr Lys Asn Ser Pro Met Glu  
 225 230 235 240  
 Asn Ser Glu Leu Arg Pro Asn Asp Arg Phe Val Trp Met Asp Gly Thr  
 245 250 255  
 Leu Leu Phe Ser Met Ala Gln Ile Ser Gln Ile Leu Asn Glu Ser Tyr  
 260 265 270  
 Ala Phe Val Lys Val Ala Arg Asn Asp Lys Ile Phe Phe Ser Arg Gln  
 275 280 285  
 Pro Arg Val Leu Ala Ser Val Leu His Tyr Thr Pro Tyr Leu Arg Asn  
 290 295 300  
 Glu Leu Ile Asp Thr Gln Tyr Glu Ala Gly Leu Lys Gly Lys Trp Ser  
 305 310 315 320  
 Ser Leu Tyr Thr Leu Pro Tyr Val Ile Asn Ser Tyr Gly Tyr Ile Glu  
 325 330 335  
 Gly Glu Leu Thr Ala Ile Asp Pro Glu Ser Pro Leu Pro Gln Pro Gln  
 340 345 350  
 Glu Arg Leu Gln Leu Gly Asp Arg Ile Leu Ala Ile Asp Gly Thr Pro  
 355 360 365  
 Val Ser Gly Ser Val Asp Ile Leu Arg Leu Val Gln Asn His Arg Val  
 370 375 380  
 Ser Ile Ile Val Gln Gln Met Ser Pro Gln Glu Leu Glu Glu Val Asn  
 385 390 395 400



Ser Arg Asp Ala Asp Lys Arg Phe Ile Ala Ser Tyr His Ser Glu Asp  
 405 410 415  
 Leu Leu Gln Ile Leu Asn His Leu Gly Glu Ser His Pro Val Glu Val  
 420 425 430  
 Ala Gly Pro Tyr Arg Leu Leu Asp Pro Val Gln Pro Arg Pro Trp Ile  
 435 440 445  
 Asp Val Tyr Ser Ser Glu Ser Leu Asp Lys Gln Leu Glu Val Ala Lys  
 450 455 460  
 Lys Ile Lys Asn Lys Asp Lys Gln Arg Tyr Tyr Leu Glu Arg Leu Asp  
 465 470 475 480  
 Ala Glu Lys Gln Lys Pro Ser Leu Gly Ile Ser Leu Lys Asp Leu Lys  
 485 490 495  
 Val Arg Tyr Asn Pro Ser Pro Val Val Met Leu Ser Asn Ile Thr Lys  
 500 505 510  
 Glu Ser Leu Ile Thr Leu Lys Ala Leu Val Thr Gly His Leu Ser Pro  
 515 520 525  
 Gln Trp Leu Ser Gly Pro Val Gly Ile Val Gln Val Leu His Thr Gly  
 530 535 540  
 Trp Ser Val Gly Phe Ser Glu Val Leu Phe Trp Ile Gly Leu Ile Ser  
 545 550 555 560  
 Met Asn Leu Ala Val Leu Asn Leu Leu Pro Ile Pro Val Leu Asp Gly  
 565 570 575  
 Gly Tyr Ile Leu Leu Cys Leu Trp Glu Ile Val Lys Arg Arg Arg Leu  
 580 585 590  
 Asn Met Lys Ile Val Glu Arg Ile Leu Val Pro Phe Thr Phe Leu Leu  
 595 600 605  
 Ile Ile Phe Phe Ile Phe Leu Thr Phe Gln Asp Leu Phe Arg Phe Phe  
 610 615 620  
 Gly  
 625

<210> 347  
 <211> 384  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 347  
 Leu Lys Val Ala Cys Leu Lys His Leu Ala Val Leu Gly Ser Thr Gly  
 1 5 10 15  
 Ser Ile Gly Arg Gln Thr Leu Glu Ile Val Arg Arg Tyr Pro Ser Glu  
 20 25 30  
 Phe Lys Ile Ile Ser Met Ala Ser Tyr Gly Asn Asn Leu Arg Leu Phe  
 35 40 45  
 Phe Gln Gln Leu Glu Glu Phe Ala Pro Leu Ala Ala Val Tyr Asn  
 50 55 60  
 Glu Glu Val Tyr Asn Glu Ala Cys Gln Arg Phe Pro His Met Gln Phe  
 65 70 75 80  
 Phe Leu Gly Gln Glu Gly Leu Thr Gln Leu Cys Ile Met Asp Thr Val  
 85 90 95  
 Thr Thr Val Val Ala Ala Ser Ser Gly Ile Glu Ala Leu Pro Ala Ile  
 100 105 110  
 Leu Glu Ser Met Lys Lys Gly Lys Ala Leu Ala Leu Ala Asn Lys Glu  
 115 120 125  
 Ile Leu Val Cys Ala Gly Glu Leu Val Ser Lys Thr Ala Lys Glu Asn  
 130 135 140  
 Gly Ile Lys Val Leu Pro Ile Asp Ser Glu His Asn Ala Leu Tyr Gln  
 145 150 155 160  
 Cys Leu Glu Gly Arg Thr Ile Glu Gly Ile Lys Lys Leu Ile Leu Thr  
 165 170 175  
 Ala Ser Gly Gly Pro Leu Leu Asn Lys Ser Leu Glu Glu Leu Ser Cys  
 180 185 190

Val Thr Lys Gln Asp Val Leu Asn His Pro Ile Trp Asn Met Gly Ser  
 195 200 205  
 Lys Val Thr Val Asp Ser Ser Thr Leu Val Asn Lys Gly Leu Glu Ile  
 210 215 220  
 Ile Glu Ala Tyr Trp Leu Phe Gly Leu Glu Asn Val Glu Ile Leu Ala  
 225 230 235 240  
 Val Ile His Pro Gln Ser Leu Ile His Gly Met Val Glu Phe Leu Asp  
 245 250 255  
 Gly Ser Val Ile Ser Ile Met Asn Pro Pro Asp Met Leu Phe Pro Ile  
 260 265 270  
 Gln Tyr Ala Leu Thr Ala Pro Glu Arg Phe Ala Ser Pro Arg Asp Gly  
 275 280 285  
 Met Asp Phe Ser Lys Lys Gln Thr Leu Glu Phe Phe Pro Val Asp Glu  
 290 295 300  
 Glu Arg Phe Pro Ser Ile Arg Leu Ala Gln Gln Val Leu Glu Lys Gln  
 305 310 315 320  
 Gly Ser Ser Gly Ser Phe Phe Asn Ala Ala Asn Glu Val Leu Val Arg  
 325 330 335  
 Arg Phe Leu Cys Glu Glu Ile Ser Trp Cys Asp Ile Leu Arg Lys Leu  
 340 345 350  
 Thr Thr Leu Met Glu Cys His Lys Val Tyr Ala Cys His Ser Leu Glu  
 355 360 365  
 Asp Ile Leu Glu Val Asp Gly Glu Ala Arg Ala Leu Ala Gln Glu Ile  
 370 375 380

<210> 348  
 <211> 329  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 348  
 Lys Lys Gly Ser Leu Met Ala Leu Gly Pro Ser Pro Tyr Tyr Gly Val  
 1 5 10 15  
 Ser Phe Phe Gln Phe Phe Ser Val Phe Phe Ser Arg Leu Phe Ser Gly  
 20 25 30  
 Ser Leu Phe Thr Gly Ser Leu Tyr Ile Asp Asp Ile Gln Ile Ile Val  
 35 40 45  
 Phe Leu Ala Ile Ser Cys Ser Gly Ala Phe Ala Gly Thr Phe Leu Val  
 50 55 60  
 Leu Arg Lys Met Ala Met Tyr Ala Asn Ala Val Ser His Thr Val Leu  
 65 70 75 80  
 Phe Gly Leu Val Cys Val Cys Leu Phe Thr His Gln Leu Thr Thr Leu  
 85 90 95  
 Ser Leu Gly Thr Leu Thr Leu Ala Ala Met Ala Thr Ala Met Leu Thr  
 100 105 110  
 Gly Phe Leu Ile Tyr Phe Ile Arg Asn Thr Phe Lys Val Ser Glu Glu  
 115 120 125  
 Ser Ser Thr Ala Leu Val Phe Ser Leu Leu Phe Ser Leu Ser Leu Val  
 130 135 140  
 Leu Leu Val Phe Met Thr Lys Asn Ala His Ile Gly Thr Glu Leu Val  
 145 150 155 160  
 Leu Gly Asn Ala Asp Ser Leu Thr Lys Glu Asp Ile Phe Pro Val Thr  
 165 170 175  
 Ile Val Ile Leu Ala Asn Ala Val Ile Thr Ile Phe Ala Phe Arg Ser  
 180 185 190  
 Leu Val Cys Ser Ser Phe Asp Ser Val Phe Ala Ser Ser Leu Gly Ile  
 195 200 205  
 Pro Ile Arg Leu Val Asp Tyr Leu Ile Ile Phe Gln Leu Ser Ala Cys  
 210 215 220  
 Leu Val Gly Ala Phe Lys Ala Val Gly Val Leu Met Ala Leu Ala Phe  
 225 230 235 240



Val Phe Trp His Ile Ser His Asn Arg Leu Glu Asn Ile Ser Val Arg  
 340 345 350  
 Asp Phe Val Cys Ser Tyr Lys Tyr Gln Glu Tyr Phe Gly Pro Lys Pro  
 355 360 365  
 Phe Pro Arg Trp Arg Val Gln Ile Leu Glu Trp Arg Gly Tyr Val Lys  
 370 375 380  
 Lys Glu Gln Asp Tyr Tyr Arg Leu Thr Lys Lys Gly Arg Ser Glu Ala  
 385 390 395 400  
 Leu Arg Leu Val Arg Ala His Arg Leu Trp Glu Ser Tyr Leu Val Asn  
 405 410 415  
 Ser Leu Asp Phe Ser Lys Glu Ser Val His Glu Leu Ala Glu Glu Ile  
 420 425 430  
 Glu His Val Leu Thr Glu Glu Leu Asp His Thr Leu Thr Glu Ile Leu  
 435 440 445  
 Asn Asp Pro Cys Tyr Asp Pro His Arg Gln Ile Ile Pro Asn Lys Lys  
 450 455 460  
 Lys Glu Val  
 465

<210> 350  
 <211> 263  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 350  
 Glu Gly Trp Leu Leu Asn Val Lys Asp Glu Thr Phe Trp Ser Val His  
 1 5 10 15  
 Asn Leu Cys Val Asn Tyr Glu His Ala Ala Val Leu Tyr His Ile Ser  
 20 25 30  
 Phe Ser Leu Gly Lys Gly Ser Leu Thr Ala Ile Leu Gly Pro Asn Gly  
 35 40 45  
 Ala Gly Lys Ser Thr Leu Leu Lys Ala Ser Leu Gly Leu Ile Lys Pro  
 50 55 60  
 Ser Ser Gly Thr Val Tyr Phe Phe Asn Gln Lys Phe Lys Lys Val Arg  
 65 70 75 80  
 Gln Arg Ile Ala Tyr Met Pro Gln Arg Ala Ser Val Asp Trp Asp Phe  
 85 90 95  
 Pro Met Thr Val Leu Asp Leu Ala Leu Met Gly Cys Tyr Ser Tyr Lys  
 100 105 110  
 Gly Met Trp Gly Arg Ile Ser Ser Asp Asp Arg Arg Glu Ala Phe His  
 115 120 125  
 Ile Leu Glu Arg Val Gly Leu Glu Ser Val Ala Asp Arg Gln Ile Gly  
 130 135 140  
 Gln Leu Ser Gly Gly Gln Gln Gln Arg Ala Phe Leu Ala Arg Ala Leu  
 145 150 155 160  
 Met Gln Lys Ala Asp Leu Tyr Leu Met Asp Glu Leu Phe Ser Ala Ile  
 165 170 175  
 Asp Met Ala Ser Phe Lys Thr Ser Val Gly Val Leu Gln Glu Leu Arg  
 180 185 190  
 Asp Gln Gly Lys Thr Ile Val Val His His Asp Leu Ser His Val  
 195 200 205  
 Arg Gln Leu Phe Asp His Val Val Leu Leu Asn Lys Arg Leu Ile Cys  
 210 215 220  
 Cys Gly Pro Thr Asp Glu Cys Leu Asn Gly Asp Thr Ile Phe Gln Thr  
 225 230 235 240  
 Tyr Gly Cys Glu Ile Glu Leu Leu Glu Gln Thr Leu Lys Leu Ser Arg  
 245 250 255  
 Gly Lys Gln Phe Gly Ser Cys  
 260

<210> 351  
 <211> 336  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 351  
 Trp Ile Leu Lys Asn Ala Ser Arg Glu Met Asp Ala Lys Met Gly Tyr  
 1 5 10 15  
 Ile Phe Lys Val Met Arg Trp Ile Phe Cys Phe Val Ala Cys Gly Ile  
 20 25 30  
 Thr Phe Gly Cys Thr Asn Ser Gly Phe Gln Asn Ala Asn Ser Arg Pro  
 35 40 45  
 Cys Ile Leu Ser Met Asn Arg Met Ile His Asp Cys Val Glu Arg Val  
 50 55 60  
 Val Gly Asn Arg Leu Ala Thr Ala Val Leu Ile Lys Gly Ser Leu Asp  
 65 70 75 80  
 Pro His Ala Tyr Glu Met Val Lys Gly Asp Lys Asp Lys Ile Ala Gly  
 85 90 95  
 Ser Ala Val Ile Phe Cys Asn Gly Leu Gly Leu Glu His Thr Leu Ser  
 100 105 110  
 Leu Arg Lys His Leu Glu Asn Asn Pro Asn Ser Val Lys Leu Gly Glu  
 115 120 125  
 Arg Leu Ile Ala Arg Gly Ala Phe Val Pro Leu Glu Glu Asp Gly Ile  
 130 135 140  
 Cys Asp Pro His Ile Trp Met Asp Leu Ser Ile Trp Lys Glu Ala Val  
 145 150 155 160  
 Ile Glu Ile Thr Glu Val Leu Ile Glu Lys Phe Pro Glu Trp Ser Ala  
 165 170 175  
 Glu Phe Lys Ala Asn Ser Glu Glu Leu Val Cys Glu Met Ser Ile Leu  
 180 185 190  
 Asp Ser Trp Ala Lys Gln Cys Leu Ser Thr Ile Pro Glu Asn Leu Arg  
 195 200 205  
 Tyr Leu Val Ser Gly His Asn Ala Phe Ser Tyr Phe Thr Arg Arg Tyr  
 210 215 220  
 Leu Ala Thr Pro Glu Glu Val Ala Ser Gly Ala Trp Arg Ser Arg Cys  
 225 230 235 240  
 Ile Ser Pro Glu Gly Leu Ser Pro Glu Ala Gln Ile Ser Val Arg Asp  
 245 250 255  
 Ile Met Ala Val Val Asp Tyr Ile Asn Glu His Asp Val Ser Val Val  
 260 265 270  
 Phe Pro Glu Asp Thr Leu Asn Gln Asp Ala Leu Lys Lys Ile Val Ser  
 275 280 285  
 Ser Leu Lys Lys Ser His Leu Val Arg Leu Ala Gln Lys Pro Leu Tyr  
 290 295 300  
 Ser Asp Asn Val Asp Asp Asn Tyr Phe Ser Thr Phe Lys His Asn Val  
 305 310 315 320  
 Cys Leu Ile Thr Glu Glu Leu Gly Gly Val Ala Leu Glu Cys Gln Arg  
 325 330 335

<210> 352  
 <211> 172  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 352  
 Glu Val Gly Phe Met Ala Val Glu Gln Ser His Ile Lys Glu Glu Ile  
 1 5 10 15  
 Glu Lys Leu Ile Gly Lys Ala Ile Lys Arg Val Cys Gly Asn Lys Glu  
 20 25 30  
 Asn Asp Leu Cys Arg Tyr Leu Pro Gly Pro Ser Gly Gly Tyr Met His  
 35 40 45

His Phe Thr Leu Lys Lys Met Lys Ser Ala Ala Pro Glu Gln Leu Leu  
 50 55 60  
 Lys Met Leu Lys Thr Phe Ile Leu Glu Ser Glu Thr Pro Arg Thr Ile  
 65 70 75 80  
 Asn Pro Lys Pro Arg Ala Pro Arg Gly Ser Lys Lys Arg Arg Asp Phe  
 85 90 95  
 Ile Asn Phe Thr Lys Thr Asp Ile Glu Arg Val Leu Glu Leu Ala Arg  
 100 105 110  
 Gln Val Gly Asp Lys Asp Leu Leu Ala Arg Phe Ser Pro Lys Lys Pro  
 115 120 125  
 Leu Thr Ser Leu Lys Arg Glu Leu Ile Arg Ser Ile Arg Asn Gly Ile  
 130 135 140  
 Val Ser Val Glu Leu Trp Asn Ala Tyr Val Glu Ala Val Lys Ala Val  
 145 150 155 160  
 Ser Ser Pro Asn Leu Glu Val Thr Ser Pro Phe Val  
 165 170

<210> 353  
 <211> 524  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 353  
 Lys Ile Lys Val Phe Gln Arg Val Asn Met Thr Lys Thr Glu Glu Lys  
 1 5 10 15  
 Pro Phe Gly Lys Leu Arg Ser Phe Leu Trp Pro Ile His Thr His Glu  
 20 25 30  
 Leu Lys Lys Val Leu Pro Met Phe Leu Met Phe Phe Cys Ile Thr Phe  
 35 40 45  
 Asn Tyr Thr Val Leu Arg Asp Thr Lys Asp Thr Leu Ile Val Gly Ala  
 50 55 60  
 Pro Gly Ser Gly Ala Glu Ala Ile Pro Phe Ile Lys Phe Trp Leu Val  
 65 70 75 80  
 Val Pro Cys Ala Ile Phe Met Leu Ile Tyr Ala Lys Leu Ser Asn  
 85 90 95  
 Ile Leu Ser Lys Gln Ala Leu Phe Tyr Ala Val Gly Thr Pro Phe Leu  
 100 105 110  
 Ile Phe Phe Ala Leu Phe Pro Thr Val Ile Tyr Pro Leu Arg Asp Val  
 115 120 125  
 Leu His Pro Thr Glu Phe Ala Asp Arg Leu Gln Ala Ile Leu Pro Pro  
 130 135 140  
 Gly Leu Leu Gly Leu Val Ala Ile Leu Arg Asn Trp Thr Phe Ala Ala  
 145 150 155 160  
 Phe Tyr Val Leu Ala Glu Leu Trp Gly Ser Val Met Leu Ser Leu Met  
 165 170 175  
 Phe Trp Gly Phe Ala Asn Glu Ile Thr Lys Ile His Glu Ala Lys Arg  
 180 185 190  
 Phe Tyr Ala Leu Phe Gly Ile Gly Ala Asn Ile Ser Leu Leu Ala Ser  
 195 200 205  
 Gly Arg Ala Ile Val Trp Ala Ser Lys Leu Arg Ala Ser Val Ser Glu  
 210 215 220  
 Gly Val Asp Pro Trp Gly Ile Ser Leu Arg Leu Leu Met Ala Met Thr  
 225 230 235 240  
 Ile Val Ser Gly Leu Val Leu Met Ala Ser Tyr Trp Trp Ile Asn Lys  
 245 250 255  
 Asn Val Leu Thr Asp Pro Arg Phe Tyr Asn Pro Glu Glu Met Gln Lys  
 260 265 270  
 Gly Lys Lys Gly Ala Lys Pro Lys Met Asn Met Lys Asp Ser Phe Leu  
 275 280 285  
 Tyr Leu Ala Arg Ser Pro Tyr Ile Leu Leu Leu Ala Leu Leu Val Ile  
 290 295 300

Ala	Tyr	Gly	Ile	Cys	Ile	Asn	Leu	Ile	Glu	Val	Thr	Trp	Lys	Ser	Gln
305					310					315					320
Leu	Lys	Leu	Gln	Tyr	Pro	Asn	Met	Asn	Asp	Tyr	Ser	Glu	Phe	Met	Gly
			325						330					335	
Asn	Phe	Ser	Phe	Trp	Thr	Gly	Val	Val	Ser	Val	Leu	Ile	Met	Leu	Phe
			340					345					350		
Val	Gly	Gly	Asn	Val	Ile	Arg	Lys	Phe	Gly	Trp	Leu	Thr	Gly	Ala	Leu
		355					360					365			
Val	Thr	Pro	Val	Met	Val	Leu	Leu	Thr	Gly	Ile	Val	Phe	Phe	Ala	Leu
	370					375					380				
Val	Ile	Phe	Arg	Asn	Gln	Ala	Ser	Gly	Leu	Val	Ala	Met	Phe	Gly	Thr
385				390					395						400
Thr	Pro	Leu	Met	Leu	Ala	Val	Val	Val	Gly	Ala	Ile	Gln	Asn	Ile	Leu
			405						410					415	
Ser	Lys	Ser	Thr	Lys	Tyr	Ala	Leu	Phe	Asp	Ser	Thr	Lys	Glu	Met	Ala
			420					425					430		
Tyr	Ile	Pro	Leu	Asp	Gln	Glu	Gln	Lys	Val	Lys	Gly	Lys	Ala	Ala	Ile
		435					440					445			
Asp	Val	Val	Ala	Ala	Arg	Phe	Gly	Lys	Ser	Gly	Gly	Ala	Leu	Ile	Gln
	450					455					460				
Gln	Gly	Leu	Leu	Val	Ile	Cys	Gly	Ser	Ile	Gly	Ala	Met	Thr	Pro	Tyr
465					470					475					480
Leu	Ala	Val	Ile	Leu	Leu	Phe	Ile	Ile	Ala	Ile	Trp	Leu	Val	Ser	Ala
			485						490					495	
Thr	Lys	Leu	Asn	Lys	Leu	Phe	Leu	Ala	Gln	Ser	Ala	Leu	Lys	Glu	Gln
			500					505					510		
Glu	Val	Ala	Gln	Glu	Asp	Ser	Ala	Pro	Ala	Ser	Ser				
		515					520								

<210> 354  
 <211> 451  
 <212> PRT  
 <213> Chlamydia pneumoniae

Trp	Val	Gly	Ile	Phe	Phe	Ile	Asn	Ser	His	Phe	Thr	Asn	Ser	Tyr	Ala
1				5					10					15	
Phe	Phe	Asn	Gln	Lys	Val	Ile	Ile	Thr	Val	Arg	His	Ser	Gly	Cys	Thr
			20					25					30		
Met	Lys	Cys	Ser	Pro	Leu	Thr	Leu	Val	Pro	His	Ile	Phe	Leu	Lys	Asn
		35					40					45			
Asp	Cys	Glu	Cys	His	Arg	Ser	Cys	Ser	Leu	Lys	Ile	Arg	Thr	Ile	Ala
	50					55				60					
Arg	Leu	Ile	Leu	Gly	Leu	Val	Leu	Ala	Leu	Val	Ser	Ala	Leu	Ser	Phe
65					70					75					80
Val	Phe	Leu	Ala	Ala	Pro	Ile	Ser	Tyr	Ala	Ile	Gly	Gly	Thr	Leu	Ala
			85						90					95	
Leu	Ala	Ala	Ile	Val	Ile	Leu	Ile	Ile	Thr	Leu	Val	Val	Ala	Leu	Leu
			100					105					110		
Ala	Lys	Ser	Lys	Val	Leu	Pro	Ile	Pro	Asn	Glu	Leu	Gln	Lys	Ile	Ile
		115					120					125			
Tyr	Asn	Arg	Tyr	Pro	Lys	Glu	Val	Phe	Tyr	Phe	Val	Lys	Thr	His	Ser
	130					135					140				
Leu	Thr	Val	Asn	Glu	Leu	Lys	Ile	Phe	Ile	Asn	Cys	Trp	Lys	Ser	Gly
145					150					155					160
Thr	Asp	Leu	Pro	Pro	Asn	Leu	His	Lys	Lys	Ala	Glu	Ala	Phe	Gly	Ile
			165						170					175	
Asp	Ile	Leu	Lys	Ser	Ile	Asp	Leu	Thr	Leu	Phe	Pro	Glu	Phe	Glu	Glu
			180					185					190		
Ile	Leu	Leu	Gln	Asn	Cys	Pro	Leu	Tyr	Trp	Leu	Ser	His	Phe	Ile	Asp
		195					200						205		

Lys Thr Glu Ser Val Ala Gly Glu Ile Gly Leu Asn Lys Thr Gln Lys  
 210 215 220  
 Val Tyr Gly Leu Leu Gly Pro Leu Ala Phe His Lys Gly Tyr Thr Thr  
 225 230 235 240  
 Ile Phe His Ser Tyr Thr Arg Pro Leu Leu Thr Leu Ile Ser Glu Ser  
 245 250 255  
 Gln Tyr Lys Phe Leu Tyr Ser Lys Ala Ser Lys Asn Gln Trp Asp Ser  
 260 265 270  
 Pro Ser Val Lys Lys Thr Cys Glu Glu Ile Phe Lys Glu Leu Pro His  
 275 280 285  
 Asn Met Ile Phe Arg Lys Asp Val Gln Gly Ile Ser Gln Phe Leu Phe  
 290 295 300  
 Leu Phe Phe Ser His Gly Ile Thr Trp Glu Gln Ala Gln Met Ile Gln  
 305 310 315 320  
 Leu Ile Asn Pro Asp Asn Trp Lys Met Leu Cys Gln Phe Asp Lys Ala  
 325 330 335  
 Gly Gly His Cys Ser Met Ala Thr Phe Gly Gly Phe Leu Asn Thr Glu  
 340 345 350  
 Thr Asn Met Phe Asp Pro Val Ser Ser Asn Tyr Glu Pro Thr Val Asn  
 355 360 365  
 Phe Met Thr Trp Lys Glu Leu Lys Val Leu Leu Glu Lys Val Lys Glu  
 370 375 380  
 Ser Pro Met His Pro Ala Ser Ala Leu Val Gln Lys Ile Cys Val Asn  
 385 390 395 400  
 Thr Thr His His Gln Asn Leu Leu Lys Arg Trp Gln Phe Val Arg Asn  
 405 410 415  
 Thr Ser Ser Gln Trp Thr Ser Ser Leu Pro Gln Tyr Ala Phe His Ala  
 420 425 430  
 Gln Thr Tyr Lys Leu Glu Lys Lys Ile Glu Ser Ser Leu Pro Ile Arg  
 435 440 445  
 Ser Ser Leu  
 450

<210> 355  
 <211> 81  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 355  
 Leu Arg Phe Arg Asn Ile Lys Lys Ser Leu Ile Phe Ile Lys Arg Ile  
 1 5 10 15  
 Arg Tyr Ser Gln Ser Gly Lys Glu Gln Lys Gly Ala Arg Pro Phe Phe  
 20 25 30  
 Lys Lys Ser Ile Thr Ser Ser Leu Val Ile Leu Leu Leu Glu Ala Ile  
 35 40 45  
 Phe Asn Glu Asn Phe Ser Ser Ile Ile Gln Asn Asn Phe Asn Lys Asn  
 50 55 60  
 Phe Lys Asn Lys Asn Ile Ser Ile Asn Arg Ile Phe Val Lys Phe Thr  
 65 70 75 80  
 Ile

<210> 356  
 <211> 482  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 356  
 Tyr Lys Thr Ile Ser Ile Lys Ile Leu Lys Ile Lys Thr Phe Leu Leu  
 1 5 10 15





<210> 357  
 <211> 455  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 357  
 Ile Arg Asp Phe Tyr Leu His Ile Ile Tyr Thr Ala Phe Asn Arg Ser  
 1 5 10 15  
 Ile Ser Lys Glu Leu Ala Met Ser Met Thr Ile Val Pro His Ala Leu  
 20 25 30  
 Phe Lys Asn His Cys Glu Cys His Ser Thr Phe Pro Leu Ser Ser Arg  
 35 40 45  
 Thr Ile Val Arg Ile Ala Ile Ala Ser Leu Phe Cys Ile Gly Ala Leu  
 50 55 60  
 Ala Ala Leu Gly Cys Leu Ala Pro Pro Val Ser Tyr Ile Val Gly Ser  
 65 70 75 80  
 Val Leu Ala Phe Ile Ala Phe Val Ile Leu Ser Leu Val Ile Leu Ala  
 85 90 95  
 Leu Ile Phe Gly Glu Lys Lys Leu Pro Pro Thr Pro Arg Ile Ile Pro  
 100 105 110  
 Asp Arg Phe Thr His Val Ile Asp Glu Ala Tyr Gly Leu Ser Ile Ser  
 115 120 125  
 Ala Phe Val Arg Glu Gln Gln Val Thr Leu Ala Glu Phe Arg Gln Phe  
 130 135 140  
 Ser Thr Ala Leu Leu Cys Asn Ile Ser Pro Glu Glu Lys Ile Lys Gln  
 145 150 155 160  
 Leu Pro Ser Glu Leu Arg Ser Lys Val Glu Ser Phe Gly Ile Ser Arg  
 165 170 175  
 Leu Ala Gly Asp Leu Glu Lys Asn Asn Trp Pro Ile Phe Glu Asp Leu  
 180 185 190  
 Leu Ser Gln Thr Cys Pro Leu Tyr Trp Leu Gln Lys Phe Ile Ser Ala  
 195 200 205  
 Gly Asp Pro Gln Val Cys Arg Asp Leu Gly Val Pro Arg Glu Cys Tyr  
 210 215 220  
 Gly Tyr Tyr Trp Leu Gly Pro Leu Gly Tyr Ser Thr Ala Lys Ala Thr  
 225 230 235 240  
 Ile Phe Cys Lys Glu Thr His His Ile Leu Gln Gln Leu Thr Lys Glu  
 245 250 255  
 Asp Val Leu Leu Leu Lys Asn Lys Ala Leu Gln Glu Lys Trp Asp Thr  
 260 265 270  
 Asp Glu Val Lys Ala Ile Val Glu Arg Ile Tyr Thr Thr Tyr Thr Ala  
 275 280 285  
 Arg Gly Thr Leu Lys Thr Glu Ala Gly Gly Leu Thr Lys Glu Thr Ile  
 290 295 300  
 Ser Lys Glu Leu Leu Leu Leu Ser Leu His Gly Tyr Ser Phe Asp Gln  
 305 310 315 320  
 Leu Gln Leu Ile Thr Gln Leu Pro Arg Asp Ala Trp Asp Trp Leu Cys  
 325 330 335  
 Phe Val Asp Asn Ser Thr Ala Tyr Asn Leu Gln Leu Cys Ala Leu Val  
 340 345 350  
 Gly Ala Leu Ser Ser Gln Asn Leu Leu Asp Glu Ser Ser Ile Asp Phe  
 355 360 365  
 Asp Val Asn Leu Gly Leu Tyr Val Ile Gln Asp Leu Lys Glu Ala Val  
 370 375 380  
 Gln Ala Phe Ser Ala Ser Asp Glu Pro Lys Lys Glu Leu Gly Lys Phe  
 385 390 395 400  
 Leu Leu Arg His Leu Ser Ser Val Ser Lys Arg Leu Glu Ser Val Leu  
 405 410 415  
 Arg Gln Gly Leu His Arg Ile Ala Leu Glu His Gly Asn Ala Arg Ala  
 420 425 430

Arg Val Tyr Asp Val Asn Phe Val Thr Gly Ala Arg Ile His Arg Lys  
 435 440 445  
 Thr Ser Ile Phe Phe Lys Asp  
 450 455

<210> 358  
 <211> 119  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 358  
 Lys Gln Val Gln Leu Phe Gln Tyr Met Asn Glu Ser Gly Trp Asp Trp  
 1 5 10 15  
 Leu Cys Asp Phe Asp Ser Gln Gly Glu Gly Phe Gln Leu Ser Arg Leu  
 20 25 30  
 Val Gly Leu Leu His Ser Ser Trp Ala Leu Tyr Glu Ala Lys Glu Gln  
 35 40 45  
 Phe Tyr Leu Pro Glu Val Ser Leu Leu Thr Trp Glu Glu Leu Ile Glu  
 50 55 60  
 Met Gln Leu Leu Ser Lys Pro Thr Lys His Gly Val Ala Lys Asp Leu  
 65 70 75 80  
 Cys Asn Val Phe Glu Lys His Phe Gln Arg Phe Arg Gln Tyr Leu Gly  
 85 90 95  
 Ser Leu Asp Leu Asn Gln Arg Phe Glu Asn Thr Phe Leu Asn Tyr Pro  
 100 105 110  
 Lys Tyr His Leu Asp Arg Glu  
 115

<210> 359  
 <211> 291  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 359  
 Tyr Ser Ser His Asn Gly Ala Ser Met Val Asn Ile Gln Pro Val Tyr  
 1 5 10 15  
 Arg Asn Thr Gln Val Asn Tyr Ser Gln Ala Thr Gln Phe Ser Val Cys  
 20 25 30  
 Gln Pro Ala Leu Ser Leu Ile Ile Val Ser Val Val Ala Ala Val Leu  
 35 40 45  
 Ala Ile Val Ala Leu Val Cys Ser Gln Ser Leu Leu Ser Ile Glu Leu  
 50 55 60  
 Gly Thr Ala Leu Val Leu Val Ser Leu Ile Leu Phe Ala Ser Ala Met  
 65 70 75 80  
 Phe Met Ile Tyr Lys Met Arg Gln Glu Pro Lys Glu Leu Leu Ile Pro  
 85 90 95  
 Lys Lys Ile Met Glu Leu Ile Gln Glu His Tyr Pro Ser Ile Val Val  
 100 105 110  
 Asp Phe Ile Arg Asp Gln Glu Val Ser Ile Tyr Glu Ile His His Leu  
 115 120 125  
 Ile Ser Ile Leu Asn Lys Thr Asn Val Phe Asp Lys Ala Pro Val Tyr  
 130 135 140  
 Leu Gln Glu Lys Leu Leu Gln Phe Gly Ile Glu Lys Phe Lys Asp Val  
 145 150 155 160  
 His Pro Ser Lys Leu Pro Asn Phe Glu Glu Ile Leu Leu Gln His Cys  
 165 170 175  
 Pro Leu His Trp Leu Gly Arg Leu Val Tyr Pro Met Val Ser Asp Val  
 180 185 190  
 Thr Pro Gly Thr Tyr Gly Tyr Tyr Trp Cys Gly Pro Leu Gly Leu Tyr  
 195 200 205

Glu Asn Ala Pro Ser Leu Phe Glu Arg Arg Ser Leu Leu Leu Lys  
 210 215 220  
 Lys Ile Ser Phe Gly Glu Phe Ala Leu Leu Glu Asp Gly Leu Lys Lys  
 225 230 235 240  
 Asn Thr Trp Ser Ser Ser Glu Leu Val Gln Ile Arg Gln Asn Leu Phe  
 245 250 255  
 Thr Arg Tyr Tyr Ala Asp Lys Glu Glu Val Asp Glu Ala Glu Leu Asn  
 260 265 270  
 Ala Asp Tyr Glu Gln Phe Asp Ser Leu Leu His Leu Ile Phe Ser His  
 275 280 285  
 Lys Leu Ser  
 290

<210> 360  
 <211> 60  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 360  
 Glu Glu Val Leu Ser Val Ser Met Lys Leu Ile Pro Thr Gln Asp Ser  
 1 5 10 15  
 Ile Glu Arg Glu Thr Asp Ser Lys Arg Asp Lys Lys Ile Phe Thr Ile  
 20 25 30  
 Tyr Ile Cys Ser Ser Lys Val Leu Ala Gly His Phe Phe Ser His Leu  
 35 40 45  
 Asp Lys His Asn Lys Ile His Glu Ser Ile Gly Val  
 50 55 60

<210> 361  
 <211> 608  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 361  
 Ile Thr Leu Gln Tyr Ile Leu Lys Glu Tyr Lys Ile Glu Asn Ile Arg  
 1 5 10 15  
 Asn Phe Ser Ile Ile Ala His Ile Asp His Gly Lys Ser Thr Ile Ala  
 20 25 30  
 Asp Arg Leu Leu Glu Ser Thr Ser Thr Val Glu Glu Arg Glu Met Arg  
 35 40 45  
 Glu Gln Leu Leu Asp Ser Met Asp Leu Glu Arg Glu Arg Gly Ile Thr  
 50 55 60  
 Ile Lys Ala His Pro Val Thr Met Thr Tyr Leu Tyr Glu Gly Glu Val  
 65 70 75 80  
 Tyr Gln Leu Asn Leu Ile Asp Thr Pro Gly His Val Asp Phe Ser Tyr  
 85 90 95  
 Glu Val Ser Arg Ser Leu Ser Ala Cys Glu Gly Ala Leu Leu Ile Val  
 100 105 110  
 Asp Ala Ala Gln Gly Val Gln Ala Gln Ser Leu Ala Asn Val Tyr Leu  
 115 120 125  
 Ala Leu Glu Arg Asp Leu Glu Ile Ile Pro Val Leu Asn Lys Ile Asp  
 130 135 140  
 Leu Pro Ala Ala Asp Pro Val Arg Ile Ala Gln Gln Ile Glu Asp Tyr  
 145 150 155 160  
 Ile Gly Leu Asp Thr Thr Asn Ile Ile Ala Cys Ser Ala Lys Thr Gly  
 165 170 175  
 Gln Gly Ile Pro Ala Ile Leu Lys Ala Ile Ile Asp Leu Val Pro Pro  
 180 185 190  
 Pro Lys Ala Pro Ala Glu Thr Glu Leu Lys Ala Leu Val Phe Asp Ser  
 195 200 205

His Tyr Asp Pro Tyr Val Gly Ile Met Val Tyr Val Arg Ile Ile Ser  
 210 215 220  
 Gly Glu Leu Lys Lys Gly Asp Arg Ile Thr Phe Met Ala Ala Lys Gly  
 225 230 235 240  
 Ser Ser Phe Glu Val Leu Gly Ile Gly Ala Phe Leu Pro Lys Ala Thr  
 245 250 255  
 Phe Ile Glu Gly Ser Leu Arg Pro Gly Gln Val Gly Phe Phe Ile Ala  
 260 265 270  
 Asn Leu Lys Lys Val Lys Asp Val Lys Ile Gly Asp Thr Val Thr Lys  
 275 280 285  
 Thr Lys His Pro Ala Lys Thr Pro Leu Glu Gly Phe Lys Glu Ile Asn  
 290 295 300  
 Pro Val Val Phe Ala Gly Ile Tyr Pro Ile Asp Ser Ser Asp Phe Asp  
 305 310 315 320  
 Thr Leu Lys Asp Ala Leu Gly Arg Leu Gln Leu Asn Asp Ser Ala Leu  
 325 330 335  
 Thr Ile Glu Gln Glu Ser Ser His Ser Leu Gly Phe Gly Phe Arg Cys  
 340 345 350  
 Gly Phe Leu Gly Leu Leu His Leu Glu Ile Ile Phe Glu Arg Ile Ile  
 355 360 365  
 Arg Glu Phe Asp Leu Asp Ile Ile Ala Thr Ala Pro Ser Val Ile Tyr  
 370 375 380  
 Lys Val Val Leu Lys Asn Gly Lys Val Leu Asp Ile Asp Asn Pro Ser  
 385 390 395 400  
 Gly Tyr Pro Asp Pro Ala Ile Ile Glu His Val Glu Glu Pro Trp Val  
 405 410 415  
 His Val Asn Ile Ile Thr Pro Gln Glu Tyr Leu Ser Asn Ile Met Asn  
 420 425 430  
 Leu Cys Leu Asp Lys Arg Gly Ile Cys Val Lys Thr Glu Met Leu Asp  
 435 440 445  
 Gln His Arg Leu Val Leu Ala Tyr Glu Leu Pro Leu Asn Glu Ile Val  
 450 455 460  
 Ser Asp Phe Asn Asp Lys Leu Lys Ser Val Thr Lys Gly Tyr Gly Ser  
 465 470 475 480  
 Phe Asp Tyr Arg Leu Gly Asp Tyr Arg Lys Gly Ser Ile Ile Lys Leu  
 485 490 495  
 Glu Val Leu Ile Asn Glu Glu Pro Ile Asp Ala Phe Ser Cys Leu Val  
 500 505 510  
 His Arg Asp Lys Ala Glu Ser Arg Gly Arg Ser Ile Cys Glu Lys Leu  
 515 520 525  
 Val Asp Val Ile Pro Gln Gln Leu Phe Lys Ile Pro Ile Gln Ala Ala  
 530 535 540  
 Ile Asn Lys Lys Val Ile Ala Arg Glu Thr Ile Arg Ala Leu Ser Lys  
 545 550 555 560  
 Asn Val Thr Ala Lys Cys Tyr Gly Gly Asp Ile Thr Arg Lys Arg Lys  
 565 570 575  
 Leu Trp Glu Lys Gln Lys Lys Gly Lys Lys Arg Met Lys Glu Phe Gly  
 580 585 590  
 Lys Val Ser Ile Pro Asn Thr Ala Phe Ile Glu Val Leu Lys Leu Asp  
 595 600 605

<210> 362

<211> 481

<212> PRT

<213> Chlamydia pneumoniae

<400> 362

Val Ala Leu Gln Thr Asn Ile Gly Leu Ile Gly Leu Ala Val Met Gly  
 1 5 10 15  
 Lys Asn Leu Val Leu Asn Met Ile Asp His Gly Phe Ser Val Ser Val  
 20 25 30

Tyr Asn Arg Thr Pro Glu Lys Thr Arg Asp Phe Leu Lys Glu Tyr Pro  
 35 40 45  
 Asn His Arg Glu Leu Val Gly Phe Glu Ser Leu Glu Asp Phe Val Asn  
 50 55 60  
 Ser Leu Glu Arg Pro Arg Lys Ile Met Leu Met Ile Gln Ala Gly Lys  
 65 70 75 80  
 Pro Val Asp Gln Ser Ile His Ala Leu Leu Pro Phe Leu Glu Pro Gly  
 85 90 95  
 Asp Val Ile Ile Asp Gly Gly Asn Ser Tyr Phe Lys Asp Ser Glu Arg  
 100 105 110  
 Arg Cys Lys Glu Leu Gln Glu Lys Gly Ile Leu Phe Leu Gly Val Gly  
 115 120 125  
 Ile Ser Gly Gly Glu Glu Gly Ala Arg His Gly Pro Ser Ile Met Pro  
 130 135 140  
 Gly Gly Asn Pro Glu Ala Trp Pro Leu Val Ala Pro Ile Phe Gln Ser  
 145 150 155 160  
 Ile Ala Ala Lys Val Gln Gly Arg Pro Cys Cys Ser Trp Val Gly Thr  
 165 170 175  
 Gly Gly Ala Gly His Tyr Val Lys Ala Val His Asn Gly Ile Glu Tyr  
 180 185 190  
 Gly Asp Ile Gln Leu Ile Cys Glu Ala Tyr Gly Ile Leu Arg Asp Phe  
 195 200 205  
 Leu Lys Leu Ser Ala Thr Ala Val Ala Thr Ile Leu Lys Glu Trp Asn  
 210 215 220  
 Thr Leu Glu Leu Glu Ser Tyr Leu Ile Arg Ile Ala Ser Glu Val Leu  
 225 230 235 240  
 Ala Leu Lys Asp Pro Glu Gly Ile Pro Val Ile Asp Thr Ile Leu Asp  
 245 250 255  
 Val Val Gly Gln Lys Gly Thr Gly Lys Trp Thr Ala Ile Asp Ala Leu  
 260 265 270  
 Asn Ser Gly Val Pro Leu Ser Leu Ile Ile Gly Ala Val Leu Ala Arg  
 275 280 285  
 Phe Leu Ser Ser Trp Lys Glu Ile Arg Glu Gln Ala Ala Arg Asn Tyr  
 290 295 300  
 Pro Gly Thr Pro Leu Ile Phe Glu Met Pro His Asp Pro Ser Val Phe  
 305 310 315 320  
 Ile Gln Asp Val Phe His Ala Leu Tyr Ala Ser Lys Ile Ile Ser Tyr  
 325 330 335  
 Ala Gln Gly Phe Met Leu Leu Gly Glu Ala Ser Lys Glu Tyr Asn Trp  
 340 345 350  
 Gly Leu Asp Leu Gly Glu Ile Ala Leu Met Trp Arg Gly Gly Cys Ile  
 355 360 365  
 Ile Gln Ser Ala Phe Leu Asp Val Ile His Lys Gly Phe Ala Ala Asn  
 370 375 380  
 Pro Glu Asn Thr Ser Leu Ile Phe Gln Glu Tyr Phe Arg Gly Ala Leu  
 385 390 395 400  
 Arg His Ala Glu Met Gly Trp Arg Arg Thr Val Val Thr Ala Ile Gly  
 405 410 415  
 Ala Gly Leu Pro Ile Pro Cys Leu Ala Ala Ile Thr Phe Tyr Asp  
 420 425 430  
 Gly Tyr Arg Thr Ala Ser Ser Ser Met Ser Leu Ala Gln Gly Leu Arg  
 435 440 445  
 Asp Tyr Phe Gly Ala His Thr Tyr Glu Arg Asn Asp Arg Pro Arg Gly  
 450 455 460  
 Glu Phe Tyr His Thr Asp Trp Val His Thr Lys Thr Thr Glu Arg Val  
 465 470 475 480  
 Lys

<210> 363  
 <211> 423  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 363  
 Ser Leu Ala Ile Leu Asn Tyr Val Arg Ser Leu Met Gln Ser Trp Leu  
 1 5 10 15  
 Gln Ser Leu Gln Glu Arg Asn Ile Leu Glu Asn Phe Thr Ala Gly Leu  
 20 25 30  
 Glu Ser Val Glu Gly Pro Ile Ala Ala Tyr Leu Gly Phe Asp Pro Thr  
 35 40 45  
 Ala Pro Ala Leu His Ile Gly His Trp Ile Gly Ile Cys Phe Leu Lys  
 50 55 60  
 Arg Leu Ala Ala Leu Gly Ile Thr Pro Ile Ala Leu Val Gly Gly Ala  
 65 70 75 80  
 Thr Gly Met Val Gly Asp Pro Ser Gly Lys Gln Ser Glu Arg Ser Leu  
 85 90 95  
 Leu Gln Thr Ser Glu Val Phe Asp Asn Ser Gln Lys Ile Thr Ala Cys  
 100 105 110  
 Leu Gln Arg Tyr Leu Pro Gly Val Thr Leu Val Asn Asn Ala Asp Trp  
 115 120 125  
 Leu Gln Glu Ile Ser Leu Ile Asp Phe Leu Gly Asp Ile Gly Lys His  
 130 135 140  
 Phe Arg Leu Gly Gln Met Leu Val Lys Asp Thr Ile Lys Gln Arg Val  
 145 150 155 160  
 His Ser Asp Glu Gly Ile Ser Tyr Thr Glu Phe Ser Tyr Leu Ile Leu  
 165 170 175  
 Gln Ser Tyr Asp Phe Tyr His Leu Phe Lys Asn Tyr Gly Thr Ile Leu  
 180 185 190  
 Gln Cys Gly Gly Ser Asp Gln Trp Gly Asn Ile Thr Ser Gly Ile Asp  
 195 200 205  
 Phe Ile Arg Arg Lys Gly Leu Gly Gln Ala Tyr Gly Leu Thr Tyr Pro  
 210 215 220  
 Leu Leu Thr Asn Ala Gln Gly Lys Lys Ile Gly Lys Thr Glu Ser Gly  
 225 230 235 240  
 Thr Val Trp Leu Asp Ser Asp Leu Thr Ser Pro Phe Glu Leu Tyr Gln  
 245 250 255  
 Tyr Leu Leu Arg Leu Pro Asp Asp Thr Ile Pro Lys Ile Ala Arg Thr  
 260 265 270  
 Leu Thr Leu Leu Ser Asn Glu Glu Ile Gln Asp Ile Asp Arg Arg Val  
 275 280 285  
 Gln Thr Asp Pro Val Ala Val Lys Glu Phe Val Ala Gln Asp Ile Leu  
 290 295 300  
 Ser Ala Ile His Gly Asp Leu Gly Leu Glu Glu Ala Leu Ser Val Thr  
 305 310 315 320  
 Arg Ser Met His Pro Gly Asn Leu Ser Ser Leu Ser Glu Lys Asp Phe  
 325 330 335  
 His Glu Leu Phe Ala Gly Gly Met Gly Ala Ser Leu Asp Lys Ser Glu  
 340 345 350  
 Val Leu Gly Lys Arg Trp Leu Asp Leu Phe Leu Val Leu Gly Leu Cys  
 355 360 365  
 Lys Ser Lys Gly Glu Ile Arg Arg Leu Ile Glu Gln Lys Gly Val Tyr  
 370 375 380  
 Ile Asn Asn Val Pro Ile Ala Asn Glu His Ser Val Cys Glu Glu Gln  
 385 390 395 400  
 Asp Ile Cys Tyr Gly His Tyr Val Leu Leu Ala Gln Gly Lys Lys Arg  
 405 410 415  
 Lys Leu Val Leu Tyr Leu Asn  
 420

<210> 364  
 <211> 263  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 364  
 Leu Asp Lys Lys Lys Phe Val Lys Thr Gln Gln Thr Gln Asn Ile Ile  
 1 5 10 15  
 Glu Val Trp Asn Phe Tyr Trp Glu Thr Gln Glu Ile Glu Tyr Arg Asp  
 20 25 30  
 Ser Leu Ile Glu Phe Tyr Leu Pro Leu Val Lys Ser Val Val His Arg  
 35 40 45  
 Leu Ile Ser Gly Met Pro Ser His Val Lys Thr Glu Asp Leu Tyr Ala  
 50 55 60  
 Ser Gly Val Glu Gly Leu Val Arg Ala Val Glu Arg Tyr Asn Pro Glu  
 65 70 75 80  
 Arg Ser Arg Arg Phe Glu Gly Tyr Ala Val Phe Leu Ile Lys Ala Ala  
 85 90 95  
 Ile Ile Asp Asp Leu Arg Lys Gln Asp Trp Val Pro Arg Ser Val His  
 100 105 110  
 Gln Lys Ala Asn Lys Leu Ser Gly Ala Met Asp Ser Leu Arg Gln Ser  
 115 120 125  
 Leu Gly Lys Glu Pro Thr Asp Leu Glu Leu Cys Glu Tyr Leu Asn Ile  
 130 135 140  
 Ser Gln Gln Glu Leu Ser Gly Trp Phe Val Ser Ala Arg Pro Ala Leu  
 145 150 155 160  
 Ile Val Ser Leu Asn Glu Glu Trp Pro Ser Gln Ser Asp Glu Gly Ala  
 165 170 175  
 Gly Met Ala Leu Glu Glu Arg Ile Pro Asp Glu Arg Ala Glu Thr Gly  
 180 185 190  
 Tyr Asp Val Val Asp Lys Gln Glu Phe Ser Leu Cys Leu Ala Asn Ala  
 195 200 205  
 Ile Gln Glu Leu Glu Glu Lys Glu Arg Lys Val Met Ala Leu Tyr Tyr  
 210 215 220  
 Tyr Glu Glu Leu Val Leu Lys Glu Ile Gly Lys Val Leu Gly Val Ser  
 225 230 235 240  
 Glu Ser Arg Val Ser Gln Ile His Ser Lys Ala Leu Leu Lys Leu Arg  
 245 250 255  
 Ala Ala Leu Ser Ala Phe Arg  
 260

<210> 365  
 <211> 586  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 365  
 Glu Ala Val Phe Val Ser Gly Lys Lys Asp Gly Val Arg Gly Met Ile  
 1 5 10 15  
 Phe Val Pro Leu Ser Ile Leu Val Leu Ile Phe Leu Pro Leu Pro Gln  
 20 25 30  
 Ile Leu Leu Asp Phe Gly Leu Cys Ile Ser Phe Ala Leu Ser Leu Leu  
 35 40 45  
 Thr Val Cys Trp Val Phe Thr Leu Asn Ser Ser Asn Ser Ala Lys Leu  
 50 55 60  
 Phe Pro Pro Phe Phe Leu Tyr Leu Cys Leu Leu Arg Leu Gly Leu Asn  
 65 70 75 80  
 Leu Ala Ser Thr Arg Trp Ile Val Ser Ser Gly Thr Ala Ser Ser Leu  
 85 90 95  
 Ile Val Ser Leu Gly Ser Phe Phe Ser Leu Gly Ser Leu Trp Ala Ala  
 100 105 110



Thr Phe Ala Cys Leu Leu Leu Phe Phe Val Asn Phe Leu Met Val Ser  
 115 120 125  
 Lys Gly Ser Glu Arg Ile Ala Glu Val Arg Ser Arg Phe Phe Leu Glu  
 130 135 140  
 Ala Leu Pro Ala Lys Gln Met Ala Leu Asp Ser Asp Leu Val Ser Gly  
 145 150 155 160  
 Arg Ala Ser Tyr Lys Ala Val Lys Lys Gln Lys Asn Ala Leu Ile Glu  
 165 170 175  
 Glu Gly Asp Phe Phe Ser Ala Met Glu Gly Val Phe Arg Phe Val Lys  
 180 185 190  
 Gly Asp Ala Ile Ile Ser Cys Ile Leu Leu Leu Val Asn Val Val Ser  
 195 200 205  
 Val Thr Cys Leu Tyr Tyr Thr Ser Gly Tyr Ala Leu Glu Gln Met Trp  
 210 215 220  
 Phe Thr Val Leu Gly Asp Ala Leu Val Ser Gln Val Pro Ala Leu Leu  
 225 230 235 240  
 Thr Ser Cys Ala Ala Ala Thr Leu Ile Ser Lys Ile Asp Lys Glu Glu  
 245 250 255  
 Ser Leu Leu Asn Tyr Leu Phe Glu Tyr Tyr Lys Gln Leu Arg Gln His  
 260 265 270  
 Phe Arg Val Val Ser Leu Leu Ile Phe Ser Leu Cys Cys Ile Pro Ser  
 275 280 285  
 Ser Pro Lys Phe Pro Ile Val Leu Leu Ala Ser Leu Leu Trp Leu Ala  
 290 295 300  
 Tyr Arg Lys Glu Glu Pro Ala Ser Glu Asp Ser Cys Ile Glu Arg Ala  
 305 310 315 320  
 Phe Ser Tyr Val Glu Gly Ala Cys Pro Lys Glu Gln Glu Ser Gln Phe  
 325 330 335  
 Tyr Gln Val Tyr Arg Ala Ala Ser Glu Glu Val Phe Glu Asp Leu Gly  
 340 345 350  
 Val Arg Leu Pro Val Leu Thr Ser Leu Arg Ile Glu Glu Arg Pro Trp  
 355 360 365  
 Leu Arg Val Phe Gly Gln Asn Val Tyr Leu Asp Glu Met Thr Pro Glu  
 370 375 380  
 Ala Val Leu Pro Phe Leu Arg Asn Ile Ala His Glu Ala Leu Asn Ala  
 385 390 395 400  
 Glu Val Val Gln Lys Tyr Leu Glu Glu Ser Glu Arg Val Phe Gly Ile  
 405 410 415  
 Ala Val Glu Asp Ile Val Pro Lys Lys Ile Ser Leu Ser Ser Leu Val  
 420 425 430  
 Val Leu Ser Arg Leu Leu Val Arg Glu Arg Val Ser Leu Lys Leu Phe  
 435 440 445  
 Pro Lys Ile Leu Glu Ala Val Ala Val Tyr Gln Asn Ser Gly Asp Ser  
 450 455 460  
 Leu Glu Ile Leu Ala Glu Lys Val Arg Lys Ser Leu Gly Tyr Trp Ile  
 465 470 475 480  
 Gly Arg Ser Leu Trp Asp Gln Lys Gln Thr Leu Glu Val Ile Thr Ile  
 485 490 495  
 Asp Phe His Val Glu Glu Leu Ile Asn Ser Ser Tyr Ser Lys Ser Asn  
 500 505 510  
 Pro Val Met Gln Glu Asn Val Ile Arg Arg Val Asp Ser Leu Leu Glu  
 515 520 525  
 Arg Ser Val Phe Lys Asp Phe Arg Ala Ile Val Thr Ser Cys Glu Thr  
 530 535 540  
 Arg Phe Glu Met Lys Lys Met Leu Asp Pro His Phe Pro Asp Leu Leu  
 545 550 555 560  
 Val Leu Ser His Asp Glu Leu Pro Lys Glu Ile Pro Ile Ser Phe Leu  
 565 570 575  
 Gly Ile Val Ser Asp Glu Val Leu Val Pro  
 580 585

<210> 366  
 <211> 95  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 366  
 Lys Glu Asn Ser Met Ala Lys Leu Val Ile Thr Ser Asp Asp Glu Gln  
 1 5 10 15  
 Gln Glu Phe Glu Leu Glu Asp Asn Ser Glu Ile Ala Glu Pro Cys Glu  
 20 25 30  
 Ser Met Gly Ile Pro Phe Ala Cys Thr Glu Gly Val Cys Gly Thr Cys  
 35 40 45  
 Val Ile Glu Val Leu Glu Gly Arg Glu Asn Leu Ser Glu Phe Thr Glu  
 50 55 60  
 Pro Glu Tyr Asp Phe Leu Gly Glu Pro Glu Asp Ser Asn Glu Arg Leu  
 65 70 75 80  
 Ala Cys Gln Cys Arg Ile Lys Gly Gly Cys Val Lys Val Thr Phe  
 85 90 95

<210> 367  
 <211> 349  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 367  
 Phe Lys Gly Thr Gln Val Asn Ser Leu Ile Met Ala Thr Ile Ser Pro  
 1 5 10 15  
 Ile Ser Leu Thr Val Asp His Pro Leu Val Asp Thr Lys Lys Ser  
 20 25 30  
 Cys Ser Asn Phe Asp Lys Ile Gln Ser Arg Ile Leu Leu Ile Thr Ala  
 35 40 45  
 Ile Phe Ala Val Leu Val Thr Ile Gly Thr Leu Leu Ile Gly Leu Leu  
 50 55 60  
 Leu Asn Ile Pro Val Ile Tyr Phe Leu Thr Gly Ile Ser Phe Ile Ala  
 65 70 75 80  
 Val Val Leu Ser Asn Phe Ile Leu Tyr Lys Arg Ala Thr Thr Leu Leu  
 85 90 95  
 Lys Pro Arg Ala Cys Gly Lys His Lys Glu Ile Lys Pro Lys Arg Val  
 100 105 110  
 Ser Thr Asn Leu Gln Tyr Ser Ser Ile Ser Ile Ala Ile Asn Arg Ser  
 115 120 125  
 Lys Glu Asn Trp Glu His Gln Pro Lys Asp Leu Gln Asn Leu Pro Ala  
 130 135 140  
 Pro Ser Ala Leu Leu Thr Asp Asn Pro Tyr Glu Ile Trp Lys Ala Lys  
 145 150 155 160  
 His Ser Leu Phe Ser Leu Val Ser Leu Leu Pro Gly Gly Asn Pro Glu  
 165 170 175  
 His Leu Leu Ile Ser Ala Ser Glu Asn Leu Gly Lys Thr Leu Leu Ile  
 180 185 190  
 Glu Glu Thr Ser Gln Asn Ala Pro Ile Ser Ser Tyr Val Asp Thr Thr  
 195 200 205  
 Pro Ser Pro Lys Ser Leu Leu Asn Glu Ala Ile Gln Glu Thr Arg Val  
 210 215 220  
 Glu Ile Asn Thr Glu Leu Pro Ala Gly Asp Ser Gly Glu Arg Leu Tyr  
 225 230 235 240  
 Trp Gln Pro Asp Phe Arg Gly Arg Val Phe Leu Pro Gln Ile Pro Thr  
 245 250 255  
 Thr Pro Glu Ala Ile Tyr Gln Tyr Tyr Tyr Ala Leu Tyr Val Thr Tyr  
 260 265 270  
 Ile Gln Thr Ala Ile Asn Thr Asn Thr Gln Ile Ile Gln Ile Pro Leu  
 275 280 285

Tyr Ser Leu Arg Glu His Leu Tyr Ser Arg Glu Leu Pro Pro Gln Ser  
 290 295 300  
 Arg Met Gln Gln Ser Leu Ala Met Ile Thr Ala Val Lys Tyr Met Ala  
 305 310 315 320  
 Glu Leu His Pro Glu Tyr Pro Leu Thr Ile Ala Cys Val Glu Arg Ser  
 325 330 335  
 Leu Ala Gln Leu Pro Gln Glu Ser Ile Glu Asp Leu Ser  
 340 345

<210> 368  
 <211> 155  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 368  
 Met Gly Tyr Leu Pro Val Ser Ala Thr Asp Val Leu Phe Glu Ser Pro  
 1 5 10 15  
 Ala Ala Pro Leu Ile Asn Ser Ala Asn Thr Gln Asn Gln Lys Leu Ile  
 20 25 30  
 Glu Leu Lys Gly Lys Gln Gln Ala Glu Ser Ser Pro Arg Thr Ile Thr  
 35 40 45  
 Ser Val Ile Leu Glu Val Leu Leu Val Ile Gly Cys Cys Leu Ile Val  
 50 55 60  
 Leu Ser Leu Leu Ala Ile Arg Pro Ala Leu Gln Phe Thr Leu Glu Thr  
 65 70 75 80  
 Gly His Pro Ala Ala Ile Ala Val Leu Ala Val Ser Gly Thr Ile Leu  
 85 90 95  
 Leu Val Ala Val Ile Ile Leu Phe Cys Phe Leu Ala Ala Val Pro Phe  
 100 105 110  
 Ala Ala Lys Lys Thr Tyr Lys Tyr Val Lys Thr Val Asp Asp Tyr Ala  
 115 120 125  
 Ser Trp His Ser His Gln Gln Thr Pro Thr Leu Gly Thr Ile Phe Ser  
 130 135 140  
 Gly Ile Val Tyr Ala Glu Ser Gln Ala Gln Leu  
 145 150 155

<210> 369  
 <211> 253  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 369  
 Ser Phe Pro Leu Asn Arg Tyr Phe Met Thr Lys Thr Thr Ser Ile Pro  
 1 5 10 15  
 Asp Val His Glu Asn Gln Ser His Leu Ser Val Asp Glu Arg Leu Ile  
 20 25 30  
 Ser Glu Ser Pro Val Leu Thr Lys Lys Glu Val Ile Ala Lys Ile Ile  
 35 40 45  
 Lys Leu Thr Ala Leu Ile Leu Ala Leu Ala Ile Ala Val Gly Thr Ala  
 50 55 60  
 Val Val Ala Gly Val Leu Gly Met Pro Leu Met Ala Ile Ala Thr Gly  
 65 70 75 80  
 Ala Ala Leu Leu Ala Ala Val Val Leu Ser Cys Leu Leu Leu Arg Arg  
 85 90 95  
 Arg Glu Pro Ser Lys Pro Thr Glu Glu Leu Leu Gly Pro Gln Lys His  
 100 105 110  
 Val Pro Lys Asp Ile Ala Ala Gln Val Gln Pro Ser Val Pro Leu Asp  
 115 120 125  
 Tyr Gln Lys Leu Leu Arg Asn Glu Trp Thr Leu Val Asn Thr Leu Ser  
 130 135 140

Glu Ile Asn Ile Ser Trp Thr Leu Gln Asp Pro Asn Gln Arg Tyr Tyr  
 145 150 155 160  
 Val Trp Glu His Gln Gly Ala Pro Ile Thr Leu Val Ala Thr Thr Gly  
 165 170 175  
 Asp Ile Ala Lys Pro Arg Leu Lys Thr Ser Gly Arg Val Met Ile Val  
 180 185 190  
 Asn Ala Ala Asn Ser Asn Met Gln Ser Gly Gly Ala Gly Thr Asn Ala  
 195 200 205  
 Ala Leu Ser Ala Ala Thr His Pro Thr Cys Trp Asn Asn Thr Arg Thr  
 210 215 220  
 Ser Gly Gly Lys Ile Asn Thr Gly Lys Gly Leu Ser Val Gly Glu Cys  
 225 230 235 240  
 Arg Ser Ala Pro Trp Ile Asn Arg Asp Trp Thr Asn Lys  
 245 250

<210> 370

<211> 114

<212> PRT

<213> Chlamydia pneumoniae

<400> 370

Thr Leu Ala Lys Asp Tyr Leu Trp Val Asn Ala Ala Gln His Pro Gly  
 1 5 10 15  
 Ser Ile Glu Thr Gly Arg Ile Asn Asp Thr Asn Pro Gly Glu Ala His  
 20 25 30  
 Phe Leu Ala Gln Leu Leu Gly Pro Lys Tyr Glu Gly Glu Leu Lys Ala  
 35 40 45  
 His Pro Glu Lys Leu Ser Asn Val Ile Lys Lys Ala Tyr Leu Asn Cys  
 50 55 60  
 Phe Asp Glu Ala Leu Asn Asn Gln Ala Thr Val Val Gln Val Pro Leu  
 65 70 75 80  
 Ile Ser Ser Ser Ile Tyr Ser Pro Gly Gly Lys Leu Glu Leu Glu Pro  
 85 90 95  
 Val Asn Gln Thr Lys Pro Asn Ser Ser Ala Tyr Lys Leu Tyr His Ile  
 100 105 110  
 Arg Thr

<210> 371

<211> 406

<212> PRT

<213> Chlamydia pneumoniae

<400> 371

Asn Ile Met Thr Asp Ser Asn Pro Leu Pro Ser Tyr Thr Asp Ala Ser  
 1 5 10 15  
 Leu Tyr Arg Thr Pro Ala Lys His Ser Tyr Pro Ile Arg Leu Pro Leu  
 20 25 30  
 Asn Arg Thr Asp Arg Ile Glu Lys Ile Leu Lys Ile Val Thr Leu Thr  
 35 40 45  
 Leu Ala Leu Ala Cys Ala Leu Gly Phe Ser Ile Ala Ala Gly Ile Leu  
 50 55 60  
 Ala Met Pro Ile Phe Ser Ala Val Val Val Ile Thr Leu Ala Ile Ala  
 65 70 75 80  
 Ala Val Ser Leu Tyr Ser Leu Leu Lys Lys Pro Lys Leu Tyr Glu Ile  
 85 90 95  
 Leu Pro Gln Ile Glu Pro Glu Ser Glu Gln Ser Ser Leu Ser Pro Ser  
 100 105 110  
 Pro Gln Pro Pro Glu Gln Gln Asp Leu Pro Leu Gln Ile Asp Pro Leu  
 115 120 125

Pro Asp Pro Glu Ser Leu Pro Glu Val Ser Leu Ala Asp Leu Thr Thr  
 130 135 140  
 Pro Pro Glu Glu Leu Thr Ala Ile Thr Val Thr Pro Gly Tyr Glu Ala  
 145 150 155 160  
 Leu Leu Glu Gln Asn Trp Asp Leu Leu Pro Ser Leu Ala Ala Val Asp  
 165 170 175  
 Pro Ser Phe Thr Thr Glu Thr Pro Gln Gln Pro Cys Phe Ile Trp Lys  
 180 185 190  
 Leu Lys Asp Ser Lys Leu Ile Phe Ile Ser Thr Ser Gly Asp Ile Ala  
 195 200 205  
 Val Pro Arg Ile Lys Thr Gln Gly Arg Val Met Ile Val Asn Ala Ala  
 210 215 220  
 Asn Glu Asn Ile Ser Arg Glu Gly Gly Gly Thr Asn Lys Ala Leu Ser  
 225 230 235 240  
 Leu Ala Thr Ser Leu Gln Cys Trp Asn Ala Ser Arg Leu Pro Arg Ala  
 245 250 255  
 His Ser Arg Ser Gly Ser Gln Leu Gln Pro Gly Glu Cys Arg Ser Ala  
 260 265 270  
 Lys Trp Glu Asn Ser Asp His Thr Ser Asn Asp His Val Pro Gly Lys  
 275 280 285  
 Ala His Phe Leu Ala Gln Leu Leu Gly Pro Glu Ala Ala Lys Cys Asn  
 290 295 300  
 Asn Asp Pro Lys Gln Ala Phe Glu Val Ser Lys Lys Ala Phe His Asn  
 305 310 315 320  
 Leu Phe Gln Glu Ala Glu Ile Ile Gly Val Asp Val Ile Gln Leu Pro  
 325 330 335  
 Leu Ile Gly Cys Asn Leu Phe Ala Pro Ser Arg Leu Leu Asn Leu Gly  
 340 345 350  
 Lys Thr Arg Ala Glu Trp Ile Glu Ala Ile Lys Leu Ala Leu Ile Thr  
 355 360 365  
 Ser Leu Gln Asp Phe Gly Trp Glu Gln Asp Asn Gln Glu Glu Gln Lys  
 370 375 380  
 Ile Ile Ile Leu Thr Asp Lys Asp Gln Pro Pro Ile Ile Pro Pro Arg  
 385 390 395 400  
 Phe Asp Leu Thr Thr Pro  
 405

<210> 372

<211> 386

<212> PRT

<213> Chlamydia pneumoniae

<400> 372

Lys Arg Ile Phe Phe Lys Leu Phe Val Phe Tyr Leu Lys Ser Phe Met  
 1 5 10 15  
 Ser Thr Thr Glu Pro Asn Leu Thr Asn Val Asn Leu Thr Met Leu Ile  
 20 25 30  
 Ser Ser Glu Ser Met Pro Thr Gln Leu Ala Ser His Lys Leu Lys Gly  
 35 40 45  
 Leu Asp Leu Val Ala Phe Ile Leu Ile Ile Gly Ile Ala Val Ser Ser  
 50 55 60  
 Gly Thr Ala Ala Ile Ile Leu Gly Ile Pro Leu Leu Phe Ile Leu Thr  
 65 70 75 80  
 Ala Leu Ala Val Leu Ala Phe Ser Ile Leu Leu Tyr Phe Leu Leu Arg  
 85 90 95  
 Glu Pro Lys Ser Pro Ile Ser Val Thr His Gln Pro Thr Pro Ile Ile  
 100 105 110  
 Lys Asp Thr Asp Leu Pro Pro Val Pro Pro Leu Ala Leu Thr Pro Val  
 115 120 125  
 Pro Thr Glu Ala Val Leu Glu Glu Pro Pro Leu Pro Ser Pro Arg Thr  
 130 135 140

His Gln Thr Leu Leu Gln Glu Asn Trp Asp Arg Ile Pro Asp Leu Gln  
 145 150 155 160  
 Ala Asn Thr Asp Met Pro Phe Ile Ala Ala Asp Asn Gln Thr Gly Tyr  
 165 170 175  
 Ala Trp His Leu Lys Asn Ser Asn Leu Thr Leu Ile Ser Thr Leu Gly  
 180 185 190  
 Pro Ile Glu Lys Pro Arg Tyr Lys Thr Gln Gly Ile Val Met Ile Val  
 195 200 205  
 Asn Ala Ala Thr Pro Asn Met Ala Asn Asn Val Lys Gly Thr Ser Leu  
 210 215 220  
 Ala Leu Ala Lys Ala Thr Ser Val Arg Cys Trp Glu Asn Ser Lys Lys  
 225 230 235 240  
 Ser Pro Asp Pro Leu Arg Ser Lys Gln Pro Leu Gln Leu Gly Glu Cys  
 245 250 255  
 Arg Ser Ala Lys Trp Glu Asn Leu Asn Gly Thr Thr Asn Ala Gly Lys  
 260 265 270  
 Ala Gly Leu Pro Gln Phe Leu Gly Gln Leu Leu Gly Pro Lys Ala Ser  
 275 280 285  
 Asp Tyr Asn Tyr Asn Pro Asn Asp Ala Phe Thr Phe Cys Arg Gln Ala  
 290 295 300  
 Tyr Leu Asn Cys Leu Asn Glu Ala Lys Arg Arg Lys Thr Thr Val Val  
 305 310 315 320  
 Gln Leu Pro Leu Leu Ser Ser His Phe Pro Gly Ser Pro Lys Asp Glu  
 325 330 335  
 Glu Thr Thr Ser Leu Arg Leu Gln Trp Ile Asp Gly Val Lys Leu Ala  
 340 345 350  
 Leu Ile Asp Ala Leu Gln Thr Phe Gly Ser Glu Ala Glu Asn Gln Asn  
 355 360 365  
 Gln Pro Trp Val Ile Ile Leu Thr Thr Leu Ala Arg His Pro Leu Ile  
 370 375 380  
 Thr Pro  
 385

<210> 373  
 <211> 121  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 373  
 Lys Thr Met Pro Val Ser Ser Ala Pro Leu Pro Thr Ser His Arg Pro  
 1 5 10 15  
 Ser Ser Gly Asn Leu Gly Leu Met Glu Pro Asn Ser Lys Ala Leu Lys  
 20 25 30  
 Ala Lys His Gln Asp Lys Thr Thr Lys Thr Ile Lys Leu Leu Val Lys  
 35 40 45  
 Ile Leu Val Ala Ile Leu Val Ile Glu Val Leu Gly Ile Ile Ala Ala  
 50 55 60  
 Phe Phe Ile Pro Gly Thr Pro Pro Ile Cys Leu Ile Ile Leu Gly Gly  
 65 70 75 80  
 Leu Ile Leu Thr Thr Val Leu Cys Val Leu Leu Val Ile Lys Leu  
 85 90 95  
 Ala Leu Val Asn Lys Thr Glu Gly Thr Thr Ala Glu Gln Gln Ile Lys  
 100 105 110  
 Arg Lys Leu Ser Ser Lys Ser Ile Ser  
 115 120

<210> 374  
 <211> 117  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 374  
 Asn Tyr Arg Ala Cys His Arg Asn Ile Gly Asn His Met Ser Ser Pro  
 1 5 10 15  
 Val Val Thr Gly Thr Ser Ser Ala Ser Pro Val Glu Gln Thr Lys Leu  
 20 25 30  
 Gly Glu Phe Leu Glu Arg Leu Ser Gly Ser Gly Arg Cys Ile Lys Ile  
 35 40 45  
 Ala Phe Ala Ala Ser Thr Ala Leu Leu Leu Leu Asn Thr Phe Val Ser  
 50 55 60  
 Gly Ile Val Ala Ile Ala Met Ile Phe Val Ala Thr Ser Val Gly Ala  
 65 70 75 80  
 Tyr Phe Thr Val Ile Gly Pro Leu Phe Leu Leu Ser Leu Ile Leu Leu  
 85 90 95  
 Ala Ile Met Leu Ile Ser Met Tyr Lys Ile Thr His Pro Ser Gln Asn  
 100 105 110  
 Thr Pro Ile Ser Asn  
 115

<210> 375  
 <211> 621  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 375  
 Asn Ser Glu Ile Phe Glu Ile Phe Met Thr Leu Ile Thr Pro Ala Ile  
 1 5 10 15  
 Asn Ser Ser Arg Arg Lys Thr His Thr Val Arg Ile Gly Asn Leu Tyr  
 20 25 30  
 Ile Gly Ser Asp His Ser Ile Lys Thr Gln Ser Met Thr Thr Thr Leu  
 35 40 45  
 Thr Thr Asp Ile Asp Ser Thr Val Glu Gln Ile Tyr Ala Leu Ala Glu  
 50 55 60  
 His Asn Cys Asp Ile Val Arg Val Thr Val Gln Gly Ile Lys Glu Ala  
 65 70 75 80  
 Gln Ala Cys Glu Lys Ile Lys Glu Arg Leu Ile Ala Leu Gly Leu Asn  
 85 90 95  
 Ile Pro Leu Val Ala Asp Ile His Phe Phe Pro Gln Ala Ala Met Leu  
 100 105 110  
 Val Ala Asp Phe Ala Asp Lys Val Arg Ile Asn Pro Gly Asn Tyr Ile  
 115 120 125  
 Asp Lys Arg Asn Met Phe Lys Gly Thr Lys Ile Tyr Thr Glu Ala Ser  
 130 135 140  
 Tyr Ala Gln Ser Leu Leu Arg Leu Glu Glu Lys Phe Ala Pro Leu Val  
 145 150 155 160  
 Glu Lys Cys Lys Arg Leu Gly Lys Ala Met Arg Ile Gly Val Asn His  
 165 170 175  
 Gly Ser Leu Ser Glu Arg Ile Met Gln Lys Tyr Gly Asp Thr Ile Glu  
 180 185 190  
 Gly Met Val Ala Ser Ala Ile Glu Tyr Ile Ala Val Cys Glu Lys Leu  
 195 200 205  
 Asn Tyr Arg Asp Val Val Phe Ser Met Lys Ser Ser Asn Pro Lys Ile  
 210 215 220  
 Met Val Thr Ala Tyr Arg Gln Leu Ala Lys Asp Leu Asp Ala Arg Gly  
 225 230 235 240  
 Trp Leu Tyr Pro Leu His Leu Gly Val Thr Glu Ala Gly Met Gly Val  
 245 250 255  
 Asp Gly Ile Ile Lys Ser Ala Val Gly Ile Gly Thr Leu Leu Ala Glu  
 260 265 270  
 Gly Leu Gly Asp Thr Ile Arg Cys Ser Leu Thr Gly Cys Pro Thr Thr  
 275 280 285

Glu Ile Pro Val Cys Asp Ser Leu Leu Arg His Thr Lys Ile Tyr Leu  
 290 295 300  
 Asp Leu Pro Glu Lys Lys Asn Pro Phe Ser Leu Gln His Ser Glu Asn  
 305 310 315 320  
 Phe Val Ser Ala Ala Glu Lys Pro Ala Lys Thr Thr Leu Trp Gly Asp  
 325 330 335  
 Val Tyr Gly Val Phe Leu Lys Leu Tyr Pro His His Leu Thr Asp Phe  
 340 345 350  
 Thr Pro Glu Glu Leu Leu Glu His Leu Gly Val Asn Pro Val Thr Lys  
 355 360 365  
 Glu Lys Ala Phe Thr Thr Pro Glu Gly Val Val Val Pro Pro Glu Leu  
 370 375 380  
 Lys Asp Ala Pro Ile Thr Asp Val Leu Arg Glu His Phe Leu Val Phe  
 385 390 395 400  
 His His His Gln Val Pro Cys Leu Tyr Glu His Asn Glu Glu Ile Trp  
 405 410 415  
 Asp Ser Pro Ala Val His Gln Ala Pro Phe Val His Phe His Ala Ser  
 420 425 430  
 Asp Pro Phe Ile His Thr Ser Arg Asp Phe Phe Glu Lys Gln Gly His  
 435 440 445  
 Gln Gly Lys Pro Thr Lys Leu Val Phe Ser Arg Asp Phe Asp Asn Lys  
 450 455 460  
 Glu Glu Ala Ala Ile Ser Ile Ala Thr Glu Phe Gly Ala Leu Leu Leu  
 465 470 475 480  
 Asp Gly Leu Gly Glu Ala Val Val Leu Asp Leu Pro Asn Leu Pro Leu  
 485 490 495  
 Gln Asp Val Leu Lys Ile Ala Phe Gly Thr Leu Gln Asn Ala Gly Val  
 500 505 510  
 Arg Leu Val Lys Thr Glu Tyr Ile Ser Cys Pro Met Cys Gly Arg Thr  
 515 520 525  
 Leu Phe Asp Leu Glu Glu Val Thr Thr Arg Ile Arg Lys Arg Thr Gln  
 530 535 540  
 His Leu Pro Gly Leu Lys Ile Ala Ile Met Gly Cys Ile Val Asn Gly  
 545 550 555 560  
 Pro Gly Glu Met Ala Asp Ala Asp Phe Gly Phe Val Gly Ser Lys Thr  
 565 570 575  
 Gly Met Ile Asp Leu Tyr Val Lys His Thr Cys Val Lys Ala His Ile  
 580 585 590  
 Pro Met Glu Asp Ala Glu Glu Glu Leu Ile Arg Leu Leu Gln Glu His  
 595 600 605  
 Gly Val Trp Lys Asp Pro Glu Glu Thr Lys Leu Thr Val  
 610 615 620

<210> 376

<211> 251

<212> PRT

<213> Chlamydia pneumoniae

<400> 376

Val Asp Ser Met Thr Leu Ser Phe His Thr His Pro Leu Asn Tyr Trp  
 1 5 10 15  
 Thr Phe Glu Glu Phe Asp Gly Leu Pro Ile Arg His Gly Val Phe Ser  
 20 25 30  
 Lys Gln Lys Asp Ala Glu Gly Thr Val Phe Ala Ala Lys Asn Pro Glu  
 35 40 45  
 Ile Ala Ser Ala Leu Gln Ser Pro Lys Tyr Cys Asp Leu His Gln Arg  
 50 55 60  
 His Gly Thr Ser Val Arg Cys Val Thr Pro Thr Ser Pro Thr Tyr Gln  
 65 70 75 80  
 Pro Ala Asp Gly Leu Cys Thr Gln Ser Pro Leu Leu Ser Leu His Ile  
 85 90 95



Arg	His	Ser	Asp	Cys	Gln	Ala	Ala	Ile	Phe	Tyr	Asp	Arg	Glu	His	His		
			100					105					110				
Ala	Ile	Ala	Asn	Val	His	Ser	Gly	Trp	Arg	Gly	Leu	Leu	Gly	Asn	Ile		
			115				120					125					
Tyr	Ala	Val	Thr	Val	Gly	Thr	Met	Lys	Lys	Leu	Phe	His	Thr	Lys	Pro		
			130			135					140						
Gln	Asp	Leu	Phe	Val	Ala	Ile	Gly	Pro	Ser	Ile	Gly	Pro	Asp	Tyr	Ala		
145					150					155					160		
Ile	Tyr	Pro	Asp	Tyr	Ala	Thr	Leu	Phe	Pro	Arg	Ser	Phe	Leu	Pro	Phe		
				165					170					175			
Met	Asn	Pro	Lys	Asn	His	Phe	Asp	Leu	Arg	Ala	Ile	Ala	Arg	Lys	Gln		
				180				185					190				
Leu	Thr	Asn	Leu	Gly	Ile	Ser	Lys	Asp	Arg	Ile	Phe	Ile	Ser	Asp	Leu		
			195				200					205					
Cys	Thr	Tyr	Thr	Glu	His	Asp	Ala	Phe	Phe	Ser	Ser	Arg	Tyr	Leu	Ala		
			210			215					220						
His	His	Pro	Asp	Pro	Asn	Leu	Thr	Gly	Gln	His	Ser	Lys	Asn	Arg	Asn		
225					230					235					240		
Asn	Val	Thr	Ala	Val	Leu	Leu	Leu	Pro	Arg	Asp							
				245					250								

<210> 377  
 <211> 168  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 377																	
Arg	Leu	Ser	Met	Lys	Leu	Gly	Ala	Ser	Thr	Asn	His	Lys	Val	His	Glu		
1				5					10				15				
Pro	Val	Lys	Pro	Lys	Lys	Ala	Gln	Leu	Ala	Glu	Ile	Glu	Ala	Asn	Lys		
			20				25					30					
Thr	Gln	Ala	Thr	Glu	Gly	Thr	Leu	Arg	Ser	Lys	Ser	Leu	Ala	Leu	Gln		
			35			40						45					
Ile	Ala	Arg	Ala	Val	Leu	Tyr	Ile	Leu	Phe	Ala	Ala	Leu	Met	Leu	Ala		
	50				55				60								
Ala	Gly	Ile	Thr	Phe	Val	Thr	Phe	Leu	Ala	Leu	Gly	Phe	Pro	Leu	Ile		
65				70					75					80			
Gln	Ala	Tyr	Ser	Ile	Ala	Gly	Ile	Ile	Thr	Leu	Val	Gly	Leu	Ala	Ile		
				85			90						95				
Gly	Leu	Val	Leu	Leu	Ile	Leu	Ser	Leu	Leu	Pro	Lys	Glu	Asp	Glu	Glu		
			100				105					110					
Ala	Asp	Ala	Leu	Ser	Arg	Asn	Ala	Leu	Leu	Pro	Leu	Thr	Ile	Ile	Val		
			115				120					125					
Ile	Glu	Gln	Gln	Pro	Ile	Thr	Pro	Lys	Pro	Glu	Ile	Pro	Tyr	Ser	Tyr		
	130				135						140						
Leu	Thr	Lys	Leu	Ala	Leu	Leu	Thr	Ser	Leu	Phe	Leu	Thr	Leu	Arg	Arg		
145				150					155						160		
Ser	Ser	Ser	Gln	Arg	Lys	Thr	His										
				165													

<210> 378  
 <211> 205  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 378																	
Phe	Lys	Val	Val	Thr	Ala	Lys	Ala	Pro	Asn	Leu	Thr	Glu	Ile	Arg	Asp		
1				5					10				15				
His	Gly	Ala	Arg	Val	Pro	Ser	Leu	Phe	Leu	Leu	Ser	Pro	Glu	Thr	Ser		
			20				25						30				

His	Trp	Lys	Gly	Asp	Lys	Glu	Val	Ser	Ala	Pro	Leu	Lys	Gln	Leu	Gln
		35					40					45			
Asp	Leu	Leu	Gly	Glu	Glu	Gln	Trp	Glu	Ala	Met	Lys	Thr	Lys	Met	Asn
	50					55					60				
Ser	Arg	Lys	Lys	Ala	Gly	Gln	Trp	Ala	Ile	Phe	Asn	Ser	Pro	Thr	Pro
65				70						75					80
Gly	Val	Ser	Ser	Thr	Leu	Val	Leu	Ala	Trp	Thr	Pro	Trp	Gly	Tyr	Tyr
				85				90						95	
Asp	Lys	Asp	Val	Gln	Asp	Ile	Leu	Glu	Arg	Lys	Asp	Pro	Met	Ser	Ser
			100					105					110		
Ser	Leu	Ser	Glu	Lys	Asp	Ser	Lys	Glu	Phe	Leu	Lys	Asn	Leu	Phe	Val
		115					120					125			
Asp	Leu	Leu	Glu	Asn	Gly	Phe	Thr	Ser	Val	His	Ile	His	Ala	Glu	Glu
	130				135						140				
Ala	Phe	Thr	Pro	Leu	Asp	His	Thr	Gly	Lys	Pro	His	Phe	Lys	Arg	Asp
145				150						155					160
Asn	Val	Tyr	Leu	Pro	Gly	Lys	Leu	Leu	Gly	Ala	Leu	Asn	Glu	Ala	Ala
				165					170					175	
Val	Gln	Ala	Asn	Val	Ser	Ala	Asp	Thr	Gln	Phe	Thr	Leu	Phe	Leu	Thr
			180					185					190		
Gln	Asp	Glu	Cys	Asn	Pro	Phe	His	Asp	Lys	Lys	Arg	Gly			
		195					200					205			

<210> 379

<211> 365

<212> PRT

<213> Chlamydia pneumoniae

<400> 379

Ile	Met	Thr	Thr	Glu	Val	Arg	Ile	Pro	Asn	Ile	Ala	Glu	Ser	Ile	Ser
1				5				10					15		
Glu	Val	Thr	Val	Ala	Ser	Leu	Leu	Val	Thr	Glu	Gly	Ala	Leu	Ile	Gln
			20					25					30		
Glu	Asn	Gln	Gly	Leu	Leu	Glu	Ile	Glu	Ser	Asp	Lys	Val	Asn	Gln	Leu
	35					40					45				
Ile	Tyr	Ala	Pro	Val	Ser	Gly	Arg	Ile	Phe	Trp	Glu	Val	Ser	Glu	Gly
50					55					60					
Asp	Val	Val	Pro	Val	Gly	Gly	Val	Val	Gly	Lys	Ile	Glu	Pro	Ala	Gly
65				70						75				80	
Glu	Gly	Glu	Glu	Leu	Gly	Asp	Ser	Gln	Ser	Lys	Glu	Thr	Ile	Glu	Ala
				85				90					95		
Glu	Ile	Ile	Cys	Phe	Pro	Gln	Ser	Gly	Val	Arg	Gln	Ser	Pro	Pro	Glu
			100					105					110		
Asn	Lys	Thr	Phe	Ile	Pro	Leu	Arg	Asp	Gln	Met	Asp	Gln	Gly	Ser	Gln
		115					120					125			
Gly	Leu	Ser	Ala	Gly	Asp	Arg	Gly	Glu	Thr	Arg	Glu	Arg	Met	Thr	Ser
	130				135						140				
Ile	Arg	Lys	Thr	Ile	Ser	Arg	Arg	Leu	Leu	Ser	Ala	Leu	His	Glu	Ser
145				150						155				160	
Ala	Met	Leu	Thr	Thr	Phe	Asn	Glu	Val	Tyr	Met	Thr	Pro	Leu	Phe	His
				165				170					175		
Leu	Arg	Lys	Glu	Lys	Gln	Glu	Glu	Phe	Leu	Ser	Arg	Tyr	Gly	Val	Lys
		180						185					190		
Leu	Gly	Phe	Met	Ser	Phe	Phe	Val	Lys	Ala	Val	Leu	Glu	Ala	Leu	Lys
		195					200					205			
Ala	Tyr	Pro	Arg	Val	Asn	Ala	Tyr	Ile	Asp	Gly	Glu	Glu	Ile	Val	Tyr
	210				215					220					
Arg	His	Tyr	Tyr	Asp	Ile	Ser	Ile	Ala	Val	Gly	Ile	Asp	Arg	Gly	Leu
225				230						235				240	
Val	Val	Pro	Val	Ile	Arg	Asp	Cys	Asp	Lys	Leu	Ser	Asn	Gly	Glu	Ile
				245					250					255	

Glu Gln Lys Leu Ala Asp Leu Ala Leu Arg Ala Arg Glu Gly Leu Leu  
 260 265 270  
 Ala Ile Ala Glu Leu Glu Gly Gly Phe Thr Ile Thr Asn Gly Gly  
 275 280 285  
 Val Tyr Gly Ser Leu Leu Ser Thr Pro Ile Ile Asn Pro Pro Gln Val  
 290 295 300  
 Gly Ile Leu Gly Met His Lys Ile Glu Lys Arg Pro Val Val Leu Asp  
 305 310 315 320  
 Asn Glu Ile Val Ile Ala Asp Met Met Tyr Val Ala Leu Ser Tyr Asp  
 325 330 335  
 His Arg Leu Ile Asp Gly Lys Glu Ala Val Gly Phe Leu Val Lys Val  
 340 345 350  
 Lys Glu Gly Leu Glu Asn Pro Ala Ser Leu Leu Asp Leu  
 355 360 365

<210> 380

<211> 917

<212> PRT

<213> Chlamydia pneumoniae

<400> 380

Ile Val Phe Ile Glu Phe Asn Tyr Phe Met Asp Ser Glu Phe Val Gly  
 1 5 10 15  
 Gln Val Tyr Ser Ser Asp Met Asp Trp Ile Glu Ser Met Tyr Gln Arg  
 20 25 30  
 Phe Met Asn His Glu Thr Leu Asp Pro Ser Trp Lys Tyr Phe Phe Glu  
 35 40 45  
 Gly Tyr Gln Leu Gly Gln Ala Ala Ser Pro Ser Glu Ala Ser Thr Lys  
 50 55 60  
 Ile Ser Gly Asn Glu Thr Ile Ala Met Leu Gln Glu Gln Lys Ser Gln  
 65 70 75 80  
 Phe Leu Cys Thr Ile Tyr Arg Tyr Tyr Gly Tyr Leu Gln Ser Gln Ile  
 85 90 95  
 Ser Thr Leu Ala Pro Thr Thr Asp Ser Arg Phe Ile Gln Glu Lys Ile  
 100 105 110  
 Ala Lys Ile Asp Leu Asp Glu Gln Val Pro Ser Ala Gly Leu Leu Pro  
 115 120 125  
 Lys Ala Gln Val Ser Val Arg Glu Leu Ile Glu Ala Leu Lys Lys Cys  
 130 135 140  
 Tyr Cys Gly Ser Leu Thr Leu Glu Thr Leu Thr Cys Thr Pro Glu Leu  
 145 150 155 160  
 Gln Glu Phe Val Trp Asn Leu Met Glu Lys Arg Gln Val Glu Arg Phe  
 165 170 175  
 Ala Glu Gln Leu Leu Arg Ser Tyr Lys Asp Leu Cys Lys Ala Thr Phe  
 180 185 190  
 Phe Glu Glu Phe Leu Gln Ile Lys Phe Thr Gly Gln Lys Arg Phe Ser  
 195 200 205  
 Leu Glu Gly Gly Glu Thr Leu Val Pro Met Leu Glu His Leu Val His  
 210 215 220  
 Tyr Gly Ser Ala Leu Gly Ile Ser Asn Tyr Val Leu Gly Met Ala His  
 225 230 235 240  
 Arg Gly Arg Leu Asn Val Leu Thr Asn Val Leu Gly Lys Pro Tyr Arg  
 245 250 255  
 Tyr Val Phe Met Glu Phe Glu Asp Asp Pro Ala Ala Arg Gly Leu Glu  
 260 265 270  
 Ser Val Gly Asp Val Lys Tyr His Lys Gly Tyr Val Leu Lys Ser His  
 275 280 285  
 Gln Lys Asp Arg Glu Thr Thr Phe Val Met Leu Pro Asn Ala Ser His  
 290 295 300  
 Leu Glu Ser Val Asp Pro Ile Val Glu Gly Val Val Ala Ala Leu Gln  
 305 310 315 320

656

Ser Ile Leu Val Leu Cys Ser Gly Lys Ile Tyr Tyr Asp Tyr Ala Glu  
                             805                            810                            815  
 Met Leu Pro Gln Asp Arg Arg Lys Asp Phe Ser Cys Leu Arg Ile Glu  
                             820                            825                            830  
 Ser Leu Tyr Pro Leu Ala Leu Glu Asp Leu Val Ser Leu Ile Asp Lys  
                             835                            840                            845  
 Tyr Ser His Leu Lys His Phe Val Trp Leu Gln Glu Glu Ser Lys Asn  
                             850                            855                            860  
 Met Gly Ala Tyr Asp Tyr Met Phe Met Ala Leu Gln Asp Ile Leu Pro  
                             865                            870                            875                            880  
 Glu Lys Leu Leu Tyr Ile Gly Arg Pro Arg Ser Ser Ser Thr Ala Ser  
                             885                            890                            895  
 Gly Ser Ala Lys Leu Ser Arg Gln Glu Leu Val Thr Cys Met Glu Thr  
                             900                            905                            910  
 Leu Phe Ser Leu Arg  
                             915

<210> 381  
 <211> 166  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 381  
 Lys Asn Lys Lys Met Leu Cys Thr Cys Ser Arg Ile Gln Asp Gly Asn  
   1                            5                            10                            15  
 Pro Trp Met Lys Ser Glu Arg Leu Lys Lys Leu Glu Ser Glu Leu His  
                             20                            25                            30  
 Asp Leu Thr Gln Trp Met Gln Leu Gly Leu Val Pro Lys Lys Glu Ile  
                             35                            40                            45  
 Ser Arg His Gln Glu Glu Ile Arg Ile Leu Glu His Lys Ile Tyr Glu  
                             50                            55                            60  
 Glu Lys Glu Arg Leu Gln Leu Leu Lys Glu Asn Gly Glu Ile Glu Glu  
                             65                            70                            75                            80  
 Tyr Val Thr Pro Arg Arg Ser Pro Ala Lys Thr Val Tyr Pro Asp Gly  
                             85                            90                            95  
 Pro Ser Met Ser Asp Ile Glu Phe Val Glu Pro Thr Glu Thr Glu Ile  
                             100                            105                            110  
 Asp Ile Asp Pro Gly Glu Thr Val Glu Leu Glu Leu Thr Asp Glu Gly  
                             115                            120                            125  
 Arg Glu Asp Gly Ala Val Glu Val Asp Tyr Ser His Glu Asp Asp Glu  
                             130                            135                            140  
 Asp Pro Phe Ser Asp Arg Asn Arg Trp Arg Arg Gly Gly Ile Ile Asp  
                             145                            150                            155                            160  
 Pro Asp Ala Asn Glu Trp  
                             165

<210> 382  
 <211> 402  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 382  
 Lys Ser Thr Ile Pro Thr Lys Thr Met Lys Thr Leu Ser Ala Ile Ala  
   1                            5                            10                            15  
 Ile Ala Gly Asp Ala Val Val Ser Leu Ile Pro Met Leu Met Asn Gly  
                             20                            25                            30  
 Lys Ala Pro Leu Ala Leu Tyr Ile His Ile Pro Phe Cys Thr Lys Lys  
                             35                            40                            45  
 Cys Arg Tyr Cys Ser Phe Tyr Thr Ile Pro Tyr Lys Ser Glu Ser Val  
                             50                            55                            60

Ser Leu Tyr Cys Asn Ala Val Ile Gln Glu Gly Leu Arg Lys Leu Ala  
 65 70 75 80  
 Pro Ile Gln Glu Thr His Phe Ile Glu Thr Val Phe Phe Gly Gly Gly  
 85 90 95  
 Thr Pro Ser Leu Val Ser Pro Leu Asp Leu Lys Arg Ile Leu Lys Glu  
 100 105 110  
 Leu Ala Pro His Ala Arg Glu Ile Thr Leu Glu Ala Asn Pro Glu Asn  
 115 120 125  
 Leu Thr Val Ser Tyr Leu Arg Gln Leu Gln Glu Thr Pro Ile Asn Arg  
 130 135 140  
 Ile Ser Val Gly Val Gln Thr Phe Asp Asp Ser Ile Leu Gln Leu Leu  
 145 150 155 160  
 Gly Arg Thr His Ser Ser Ser Ala Ala Ile Thr Ala Leu Gln Glu Cys  
 165 170 175  
 Gln Asn His Gly Phe Ser Asn Leu Ser Ile Asp Leu Ile Tyr Gly Leu  
 180 185 190  
 Pro Thr Gln Ser Leu Glu Ile Phe Leu Ser Asp Leu His Gln Ala Leu  
 195 200 205  
 Thr Leu Pro Ile Thr His Ile Ser Leu Tyr Asn Leu Thr Ile Asp Pro  
 210 215 220  
 His Thr Ser Phe Tyr Lys His Arg Lys Ile Leu Val Pro Thr Ile Ala  
 225 230 235 240  
 Gln Glu Glu Ile Leu Ala Glu Met Ser Leu Leu Ala Glu Asn Leu Leu  
 245 250 255  
 Leu Ser Gln Gly Phe Gln Arg Tyr Glu Leu Ala Ser Tyr Ala Lys Pro  
 260 265 270  
 Asp Tyr Pro Ala Lys His Asn Leu Tyr Tyr Trp Thr Asp Arg Pro Phe  
 275 280 285  
 Leu Gly Leu Gly Val Ser Ala Ser Gln Tyr Leu His Gly Glu Arg Ser  
 290 295 300  
 Lys Asn Tyr Ser His Ile Ser His Tyr Leu Arg Ala Val Arg Lys Asn  
 305 310 315 320  
 Leu Pro Thr Gln Glu Thr Ser Glu Ile Leu Pro Lys Lys Glu Arg Ile  
 325 330 335  
 Lys Glu Ala Leu Ala Leu Arg Leu Arg Leu Glu Gly Ala Asp Leu  
 340 345 350  
 Ala Glu Phe Pro Ser Thr Leu Ile Ser Met Leu Thr Gln Asp Val Lys  
 355 360 365  
 Leu Gln Asn Leu Phe Ser Val His Gly Gln Cys Leu Ala Leu Asn Arg  
 370 375 380  
 Gln Gly Arg Leu Phe His Asp Thr Ile Ala Glu Glu Ile Met Gly Tyr  
 385 390 395 400  
 Ser Phe

<210> 383  
 <211> 600  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 383

Ser Leu Pro Asn Lys Phe Arg Ala Leu Met Thr Ala Pro Thr Glu Ser  
 1 5 10 15  
 Arg Ser Ser Pro Pro Thr Leu Leu Glu Glu Thr Glu Pro Leu Ser Pro  
 20 25 30  
 Asn Pro Ile Pro Ala Asp Ile Gln Ile Pro Arg Ile Thr Ile Ser Pro  
 35 40 45  
 Pro Ser Leu Asp Val Ser Thr Val Ala Ser Ser Ala Glu Asp Ile Ser  
 50 55 60  
 Val Phe Ile Ala Gly Gly Pro Arg Ser Ser Ser Ser Ala Ser Val Ala  
 65 70 75 80

Ser	Asp	Val	Tyr	Glu	Leu	Val	Cys	Leu	Cys	Gly	Gly	Asp	Glu	Asp	Pro	85	90	95
Glu	Pro	Pro	Asp	Ser	Glu	Val	Arg	Thr	Leu	Tyr	Val	Asn	Gly	Ser	Trp	100	105	110
Gln	Thr	His	Gln	Glu	Ala	Val	Gln	Glu	Leu	Leu	Tyr	Ile	Ser	Glu	Val	115	120	125
Arg	Gly	Glu	Ala	Val	Arg	Leu	Leu	Tyr	Asn	Asp	Gly	Ser	Gly	Met	Ser	130	135	140
Pro	Trp	Pro	Ile	Ser	Pro	Cys	Arg	Thr	Leu	Pro	Thr	Leu	Asp	His	Pro	145	150	155
Leu	Cys	Gln	Ala	Leu	Leu	Thr	Val	Trp	Glu	Gln	Phe	Phe	Ser	Ala	Pro	165	170	175
Glu	Asn	Gln	Asn	Arg	Glu	Phe	Leu	Val	Ile	Phe	Tyr	Gly	Asp	Ala	Ser	180	185	190
Pro	Tyr	Ile	Gln	Gln	Ala	Leu	Thr	Gln	Ser	Arg	His	Ser	Pro	Arg	Ile	195	200	205
Val	Val	Val	Gly	Ile	Ser	Pro	Thr	Val	Phe	Ile	Gln	Gly	Asp	Phe	Arg	210	215	220
Val	His	Asn	Tyr	Arg	Val	Ser	Gly	Asp	Phe	Phe	Ser	Ser	Leu	Asp	Cys	225	230	235
Arg	Gly	Thr	Arg	Ala	Glu	Asn	Thr	Thr	Ile	Leu	Pro	Tyr	Ser	Ser	Gly	245	250	255
Leu	Glu	Gly	Val	Phe	Leu	Pro	Ser	Ile	Arg	Cys	Pro	Ser	Phe	Thr	Trp	260	265	270
Ala	Val	Arg	Phe	Gly	Glu	Gln	Cys	Leu	Val	Ala	Asn	Arg	Gly	Glu	Asp	275	280	285
Val	Glu	Asp	Arg	Gly	Gly	Leu	Ser	Gln	Asp	Ala	Glu	Arg	Ser	Gln	Leu	290	295	300
Pro	His	Ser	Glu	Arg	Asp	Leu	Ala	Val	Val	Ile	Asp	Ser	Thr	Asp	Pro	305	310	315
Ser	Ser	Met	Ser	Arg	Leu	Val	Glu	Trp	Leu	Asn	Gln	Gly	Ser	Pro	Ser	325	330	335
Ser	Asp	Met	Glu	Ile	Asn	Pro	Tyr	Pro	Gln	Arg	Cys	Pro	Asp	Val	Ala	340	345	350
Leu	Ser	Ala	Leu	Tyr	Ala	Ile	Ser	Arg	Val	Ser	Gly	Leu	Ala	Gln	Glu	355	360	365
Trp	Ile	Leu	Ala	Ser	Val	His	Glu	Gly	Leu	Asp	Leu	Gln	Ile	Cys	Tyr	370	375	380
Ser	Leu	Ile	Leu	Met	His	Thr	Thr	Phe	Ala	Val	Arg	Tyr	Phe	Phe	Leu	385	390	395
Leu	Phe	Thr	Asn	Tyr	Pro	Gln	Ser	Arg	Glu	Arg	Phe	Arg	Thr	Ala	Arg	405	410	415
Ile	Val	Ala	Gln	Ser	Leu	Tyr	Leu	Pro	Ser	Ile	Leu	Val	Leu	Val	Phe	420	425	430
Asp	Cys	Gly	Asn	Val	Leu	Arg	Lys	Leu	Trp	Met	Pro	Gln	Glu	Ile	Leu	435	440	445
Arg	Ala	Ile	Phe	Ile	Ser	Ala	Ser	Thr	Ile	Ser	Gly	Ser	Ile	Val	Phe	450	455	460
Val	Glu	Cys	Thr	Arg	Trp	Met	Gly	Arg	Gly	Leu	Arg	His	Arg	Val	Gln	465	470	475
Gln	Phe	Val	Gln	Gln	Arg	Val	Ile	Gly	Ser	Gly	Leu	Pro	Val	Gly	Thr	485	490	495
Val	Arg	Ala	Ser	Tyr	Arg	Asp	Arg	Ala	Gly	Phe	Ile	Ile	Gly	Phe	Leu	500	505	510
Gln	Thr	Val	His	Gly	Gly	Leu	Tyr	Leu	Pro	Val	Ser	Ile	Met	Val	Leu	515	520	525
Asn	Gln	Ile	Ala	Ile	Gln	Val	Pro	Arg	Ile	Leu	Val	Arg	Pro	Asn	Asn	530	535	540
Thr	Ala	Val	Tyr	Asp	Leu	His	Asn	Lys	Ser	Ala	Glu	Glu	Asn	Trp	Ser	545	550	555

Ser Gly Asp Val Leu Ala Val Gly Gln Thr Leu Asn Phe Ile Leu Cys  
565 570 575  
Ala Phe Val Leu Phe Val Asn Leu Trp Phe Phe Val Lys Ser Val Leu  
580 585 590  
Arg His Ser Arg Arg Arg Arg Arg  
595 600

<210> 384  
<211> 239  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 384  
Pro Val Thr Leu Tyr Leu Leu Pro Asn Thr Leu Gly Thr Arg Ala Val  
1 5 10 15  
Glu Thr Leu Pro Ser Val Ile Gly Glu Leu Val His Arg Leu Asp Gly  
20 25 30  
Leu Ile Val Glu Ser Asp Arg Gly Gly Arg Ala Phe Leu Ser Leu Trp  
35 40 45  
Lys Ile Pro Glu Val His Lys Phe Pro Leu Ala Ile Leu Ser Lys His  
50 55 60  
Ala Arg Leu Pro Lys Ala Trp Asp Phe Tyr Leu Glu Pro Ile Val Lys  
65 70 75 80  
His Gly Glu Asn Trp Gly Leu Ile Ser Asp Ala Gly Leu Pro Cys Ile  
85 90 95  
Ala Asp Pro Gly Ala Ser Leu Val Arg Arg Ala Arg Ala Leu Gly Ile  
100 105 110  
Pro Val Gln Ala Phe Ser Gly Pro Cys Ser Ile Thr Leu Ala Leu Met  
115 120 125  
Leu Ser Gly Leu Pro Ser Gln Ser Phe Thr Phe Leu Gly Tyr Leu Pro  
130 135 140  
Gln Ser Pro Lys Glu Arg Val Lys Ser Ile Lys Lys Ala Ala Thr Ser  
145 150 155 160  
Lys Glu Val Ser Thr Ser Val Cys Ile Glu Thr Ser Tyr Arg Asn Val  
165 170 175  
Tyr Thr Phe Glu Ser Leu Leu Asp Thr Leu Pro Ser Tyr Ala Glu Leu  
180 185 190  
Cys Val Ala Ser Asp Leu Ser Gly Pro Ser Glu Leu Val Leu Thr Arg  
195 200 205  
Gln Val Gln Ser Trp Arg Thr Thr Glu Asp Leu Gly Ser Val Lys Gln  
210 215 220  
Ser Ile Thr Lys Val Pro Thr Ile Phe Leu Phe His Ile Pro Asn  
225 230 235

<210> 385  
<211> 321  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 385  
Val Gln Asp Thr Thr Phe Leu Thr Leu Pro Met Gln Lys Ser Leu Thr  
1 5 10 15  
Ser Phe Asp Asp Phe Ser Gln Ala Tyr Ala Glu Lys Val Pro Ala Ile  
20 25 30  
Ala Leu Ile Gly Ser Ala Leu Glu Asp Asp Lys Asp Ala Leu Ile Glu  
35 40 45  
Leu Leu Val Ser Glu Ser Phe Lys Glu Leu Gly Gly Gln Gly Leu Met  
50 55 60  
Pro Ala Thr Leu Met Ser Trp Thr Glu Thr Phe Ala Leu Phe Gln Glu  
65 70 75 80



His	Glu	Thr	Leu	Gly	Ile	Ile	His	Ala	Glu	Lys	Phe	Pro	Leu	Ala	Thr
				85					90					95	
Lys	Glu	Phe	Leu	Ser	Arg	Tyr	Ala	Arg	Asn	Pro	Gln	Pro	His	Leu	Thr
			100					105					110		
Ile	Leu	Ile	Phe	Thr	Thr	Lys	Gln	Glu	Cys	Phe	Arg	Glu	Leu	Ser	Lys
		115					120					125			
Ala	Leu	Pro	Ser	Ala	Leu	Ser	Leu	Ser	Leu	Phe	Gly	Glu	Trp	Pro	Ala
		130				135					140				
Asp	Arg	Gln	Lys	Arg	Ile	Ile	Arg	Leu	Leu	Leu	Gln	Arg	Ala	Glu	Arg
145					150					155					160
Val	Gly	Ile	Ser	Cys	Ser	Gln	Ser	Leu	Ala	Ser	Leu	Phe	Leu	Arg	Ala
				165					170					175	
Leu	Ala	Ser	Thr	Ser	Leu	Pro	Asp	Ile	Leu	Ser	Glu	Phe	Asp	Lys	Leu
			180				185						190		
Leu	Cys	Ser	Val	Gly	Lys	Lys	Thr	Ser	Leu	Asp	His	Ser	Asp	Ile	Lys
		195					200					205			
Glu	Leu	Val	Val	Lys	Lys	Glu	Lys	Ala	Ser	Leu	Trp	Lys	Phe	Arg	Asp
	210					215					220				
Ser	Leu	Leu	Lys	Arg	Asp	Pro	Val	Glu	Gly	His	Gln	Gln	Leu	His	Phe
225					230					235					240
Leu	Leu	Glu	Asp	Gly	Glu	Asp	Pro	Leu	Gly	Ile	Ile	Thr	Phe	Leu	Arg
				245					250					255	
Thr	Gln	Cys	Leu	Tyr	Gly	Leu	Arg	Ser	Ile	Glu	Glu	Gly	Ser	Lys	Glu
			260				265						270		
Asn	Lys	His	Arg	Met	Phe	Val	Leu	Tyr	Gly	Lys	Glu	Arg	Leu	His	Gln
		275					280					285			
Ala	Leu	Asn	Ser	Leu	Phe	Tyr	Ala	Glu	Thr	Leu	Ile	Lys	Asn	Asn	Val
	290					295					300				
Gln	Asp	Pro	Ile	Val	Ala	Val	Glu	Thr	Leu	Val	Ile	Arg	Met	Val	Asn
305					310					315					320
Leu															

<210> 386  
 <211> 182  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 386															
Val	Ile	Thr	Cys	Leu	Ile	Arg	Gly	Ile	Lys	Met	Ile	Gly	Ala	Gln	Lys
1				5					10					15	
Lys	Gln	Ser	Gly	Lys	Lys	Thr	Ala	Ser	Arg	Ala	Val	Arg	Lys	Pro	Ala
			20					25					30		
Lys	Lys	Val	Ala	Ala	Lys	Arg	Thr	Val	Lys	Lys	Ala	Thr	Val	Arg	Lys
		35					40					45			
Thr	Ala	Val	Lys	Lys	Pro	Ala	Val	Arg	Lys	Thr	Ala	Ala	Lys	Lys	Thr
		50				55					60				
Val	Ala	Lys	Lys	Thr	Thr	Ala	Lys	Arg	Thr	Val	Arg	Lys	Thr	Val	Ala
65					70					75					80
Lys	Lys	Pro	Ala	Val	Lys	Lys	Val	Ala	Ala	Lys	Arg	Val	Val	Lys	Lys
				85					90					95	
Thr	Val	Ala	Lys	Lys	Thr	Thr	Ala	Lys	Arg	Ala	Val	Arg	Lys	Thr	Val
		100					105						110		
Ala	Lys	Lys	Pro	Val	Ala	Arg	Lys	Thr	Thr	Val	Ala	Lys	Gly	Ser	Pro
		115					120					125			
Lys	Lys	Ala	Ala	Ala	Cys	Ala	Leu	Ala	Cys	His	Lys	Asn	His	Lys	His
		130				135					140				
Thr	Ser	Ser	Cys	Lys	Arg	Val	Cys	Ser	Ser	Thr	Ala	Thr	Arg	Lys	His
145					150					155					160
Gly	Ser	Lys	Ser	Arg	Val	Arg	Thr	Ala	His	Gly	Trp	Arg	His	Gln	Leu
				165					170					175	

Ile Lys Met Met Ser Arg  
180

<210> 387

<211> 507

<212> PRT

<213> Chlamydia pneumoniae

<400> 387

Phe	Leu	Val	Ile	Lys	Gly	Glu	Phe	Val	Val	Leu	Phe	His	Ala	Gln	Ala	1	5	10	15
Ser	Gly	Arg	Asn	Arg	Val	Lys	Ala	Asp	Ala	Ile	Val	Leu	Pro	Phe	Trp	20	25	30	
His	Phe	Lys	Asp	Ala	Lys	Asn	Ala	Ala	Ser	Phe	Glu	Ala	Glu	Phe	Glu	35	40	45	
Pro	Ser	Tyr	Leu	Pro	Ala	Leu	Glu	Asn	Phe	Gln	Gly	Lys	Thr	Gly	Glu	50	55	60	
Ile	Glu	Leu	Leu	Tyr	Ser	Ser	Pro	Lys	Ala	Lys	Glu	Lys	Arg	Ile	Val	65	70	75	80
Leu	Leu	Gly	Leu	Gly	Lys	Asn	Glu	Glu	Leu	Thr	Ser	Asp	Val	Val	Phe	85	90	95	
Gln	Thr	Tyr	Ala	Thr	Leu	Thr	Arg	Val	Leu	Arg	Lys	Ala	Lys	Cys	Ser	100	105	110	
Thr	Val	Asn	Ile	Ile	Leu	Pro	Thr	Ile	Ser	Glu	Leu	Arg	Leu	Ser	Ala	115	120	125	
Glu	Glu	Phe	Leu	Val	Gly	Leu	Ser	Ser	Gly	Ile	Leu	Ser	Leu	Asn	Tyr	130	135	140	
Asp	Tyr	Pro	Arg	Tyr	Asn	Lys	Val	Asp	Arg	Asn	Leu	Glu	Thr	Pro	Leu	145	150	155	160
Ser	Lys	Val	Thr	Val	Ile	Gly	Ile	Val	Pro	Lys	Met	Ala	Asp	Ala	Ile	165	170	175	
Phe	Arg	Lys	Glu	Ala	Ala	Ile	Phe	Glu	Gly	Val	Tyr	Leu	Thr	Arg	Asp	180	185	190	
Leu	Val	Asn	Arg	Asn	Ala	Asp	Glu	Ile	Thr	Pro	Lys	Lys	Leu	Ala	Glu	195	200	205	
Val	Ala	Leu	Asn	Leu	Gly	Lys	Glu	Phe	Pro	Ser	Ile	Asp	Thr	Lys	Val	210	215	220	
Leu	Gly	Lys	Asp	Ala	Ile	Ala	Lys	Glu	Lys	Met	Gly	Leu	Leu	Leu	Ala	225	230	235	240
Val	Ser	Lys	Gly	Ser	Cys	Val	Asp	Pro	His	Phe	Ile	Val	Val	Arg	Tyr	245	250	255	
Gln	Gly	Arg	Pro	Lys	Ser	Lys	Asp	His	Thr	Val	Leu	Ile	Gly	Lys	Gly	260	265	270	
Val	Thr	Phe	Asp	Ser	Gly	Gly	Leu	Asp	Leu	Lys	Pro	Gly	Lys	Ser	Met	275	280	285	
Leu	Thr	Met	Lys	Glu	Asp	Met	Ala	Gly	Gly	Ala	Thr	Val	Leu	Gly	Ile	290	295	300	
Leu	Ser	Ala	Leu	Ala	Val	Leu	Glu	Leu	Pro	Ile	Asn	Val	Thr	Gly	Ile	305	310	315	320
Ile	Pro	Ala	Thr	Glu	Asn	Ala	Ile	Asp	Gly	Ala	Ser	Tyr	Lys	Met	Gly	325	330	335	
Asp	Val	Tyr	Val	Gly	Met	Ser	Gly	Leu	Ser	Val	Glu	Ile	Cys	Ser	Thr	340	345	350	
Asp	Ala	Glu	Gly	Arg	Leu	Ile	Leu	Ala	Asp	Ala	Ile	Thr	Tyr	Ala	Leu	355	360	365	
Lys	Tyr	Cys	Lys	Pro	Thr	Arg	Ile	Ile	Asp	Phe	Ala	Thr	Leu	Thr	Gly	370	375	380	
Ala	Met	Val	Val	Ser	Leu	Gly	Glu	Glu	Val	Ala	Gly	Phe	Phe	Ser	Asn	385	390	395	400
Asn	Asp	Val	Leu	Ala	Glu	Asp	Leu	Leu	Glu	Ala	Ser	Ala	Glu	Thr	Ser	405	410	415	

Glu Pro Leu Trp Arg Leu Pro Leu Val Lys Lys Tyr Asp Lys Thr Leu  
 420 425 430  
 His Ser Asp Ile Ala Asp Met Lys Asn Leu Gly Ser Asn Arg Ala Gly  
 435 440 445  
 Ala Ile Thr Ala Ala Leu Phe Leu Gln Arg Phe Leu Glu Glu Ser Ser  
 450 455 460  
 Val Ala Trp Ala His Leu Asp Ile Ala Gly Thr Ala Tyr His Glu Lys  
 465 470 475 480  
 Glu Glu Asp Arg Tyr Pro Lys Tyr Ala Ser Gly Phe Gly Val Arg Ser  
 485 490 495  
 Ile Leu Tyr Tyr Leu Glu Asn Ser Leu Ser Lys  
 500 505

<210> 388

<211> 166

<212> PRT

<213> Chlamydia pneumoniae

<400> 388

Lys Ser Lys Gly Tyr Leu Met Met Phe Gly His Phe Ala Gly Tyr Leu  
 1 5 10 15  
 Gly Ala Asp Pro Glu Glu Arg Met Thr Ser Lys Gly Lys Arg Val Ile  
 20 25 30  
 Thr Leu Arg Leu Gly Val Lys Thr Arg Val Gly Met Lys Asp Glu Thr  
 35 40 45  
 Val Trp Cys Lys Cys Asn Ile Trp His Asn Arg Tyr Asp Lys Met Leu  
 50 55 60  
 Pro Tyr Leu Lys Lys Gly Ser Gly Val Ile Val Ala Gly Asp Ile Ser  
 65 70 75 80  
 Val Glu Ser Tyr Met Ser Lys Asp Gly Ser Pro Gln Ser Ser Leu Val  
 85 90 95  
 Ile Ser Val Asp Ser Leu Lys Phe Ser Pro Phe Gly Arg Asn Glu Gly  
 100 105 110  
 Ser Arg Ser Pro Ser Leu Glu Asp Asn His Gln Gln Val Gly Tyr Glu  
 115 120 125  
 Ser Val Ser Val Gly Phe Glu Gly Glu Ala Leu Asp Ala Glu Ala Ile  
 130 135 140  
 Lys Asp Lys Asp Met Tyr Ala Gly Tyr Gly Gln Glu Gln Gln Tyr Val  
 145 150 155 160  
 Cys Glu Asp Val Pro Phe  
 165

<210> 389

<211> 177

<212> PRT

<213> Chlamydia pneumoniae

<400> 389

Asn Asn Asn Asn Leu Leu Gln Gly Asp Ser Leu Met Ser Arg Gln Asn  
 1 5 10 15  
 Ala Glu Glu Asn Leu Lys Asn Phe Ala Lys Glu Leu Lys Leu Pro Asp  
 20 25 30  
 Val Ala Phe Asp Gln Asn Asn Thr Cys Ile Leu Phe Val Asp Gly Glu  
 35 40 45  
 Phe Ser Leu His Leu Thr Tyr Glu Glu His Ser Asp Arg Leu Tyr Val  
 50 55 60  
 Tyr Ala Pro Leu Leu Asp Gly Leu Pro Asp Asn Thr Gln Arg Lys Leu  
 65 70 75 80  
 Ala Leu Tyr Glu Lys Leu Leu Glu Gly Ser Met Leu Gly Gly Gln Met  
 85 90 95

Ala Gly Gly Gly Val Gly Val Ala Thr Lys Glu Gln Leu Ile Leu Met  
100 105 110  
His Cys Val Leu Asp Met Lys Tyr Ala Glu Thr Asn Leu Leu Lys Ala  
115 120 125  
Phe Ala Gln Leu Phe Ile Glu Thr Val Val Lys Trp Arg Thr Val Cys  
130 135 140  
Ala Asp Ile Cys Ala Gly Arg Glu Pro Ser Val Asp Thr Met Pro Gln  
145 150 155 160  
Met Pro Gln Gly Gly Gly Met Gln Pro Pro Thr Gly Ile Arg  
165 170 175  
Ala

<210> 390  
<211> 666  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 390  
Ser Thr Met Glu Lys Val Ser Ser Tyr Pro Ser Val Pro Leu Pro Leu  
1 5 10 15  
Gly Ala Ser Lys Ile Ser Pro Asn Arg Tyr Arg Phe Ala Leu Tyr Ala  
20 25 30  
Ser Gln Ala Thr Glu Val Ile Leu Ala Leu Thr Asp Glu Asn Ser Glu  
35 40 45  
Val Ile Glu Val Pro Leu Tyr Pro Asp Thr His Arg Thr Gly Ala Ile  
50 55 60  
Trp His Ile Glu Ile Glu Gly Ile Ser Asp Gln Ser Ser Tyr Ala Phe  
65 70 75 80  
Arg Val His Gly Pro Lys Lys His Gly Met Gln Tyr Ser Phe Lys Glu  
85 90 95  
Tyr Leu Ala Asp Pro Tyr Ala Lys Asn Ile His Ser Pro Gln Ser Phe  
100 105 110  
Gly Ser Arg Lys Lys Gln Gly Asp Tyr Ala Phe Cys Tyr Leu Lys Glu  
115 120 125  
Glu Pro Phe Pro Trp Asp Gly Asp Gln Pro Leu His Leu Pro Lys Glu  
130 135 140  
Glu Met Ile Ile Tyr Glu Met His Val Arg Ser Phe Thr Gln Ser Ser  
145 150 155 160  
Ser Ser Arg Val His Ala Pro Gly Thr Phe Leu Gly Ile Ile Glu Lys  
165 170 175  
Ile Asp His Leu His Lys Leu Gly Ile Asn Ala Val Glu Leu Leu Pro  
180 185 190  
Ile Phe Glu Phe Asp Glu Thr Ala His Pro Phe Arg Asn Ser Lys Phe  
195 200 205  
Pro Tyr Leu Cys Asn Tyr Trp Gly Tyr Ala Pro Leu Asn Phe Phe Ser  
210 215 220  
Pro Cys Arg Arg Tyr Ala Tyr Ala Ser Asp Pro Cys Ala Pro Ser Arg  
225 230 235 240  
Glu Phe Lys Thr Leu Val Lys Thr Leu His Gln Glu Gly Ile Glu Val  
245 250 255  
Ile Leu Asp Val Val Phe Asn His Thr Gly Leu Gln Gly Thr Thr Cys  
260 265 270  
Ser Leu Pro Trp Ile Asp Thr Pro Ser Tyr Tyr Ile Leu Asp Ala Gln  
275 280 285  
Gly His Phe Thr Asn Tyr Ser Gly Cys Gly Asn Thr Leu Asn Thr Asn  
290 295 300  
Arg Ala Pro Thr Thr Gln Trp Ile Leu Asp Ile Leu Arg Tyr Trp Val  
305 310 315 320  
Glu Glu Met His Val Asp Gly Phe Arg Phe Asp Leu Ala Ser Val Phe  
325 330 335

Ser	Arg	Gly	Pro	Ser	Gly	Ser	Pro	Leu	Gln	Phe	Ala	Pro	Val	Leu	Glu
			340					345					350		
Ala	Ile	Ser	Phe	Asp	Pro	Leu	Leu	Ala	Ser	Thr	Lys	Ile	Ile	Ala	Glu
		355					360					365			
Pro	Trp	Asp	Ala	Gly	Gly	Leu	Tyr	Gln	Val	Gly	Tyr	Phe	Pro	Thr	Leu
	370					375					380				
Ser	Pro	Arg	Trp	Ser	Glu	Trp	Asn	Gly	Pro	Tyr	Arg	Asp	Asn	Val	Lys
385					390					395					400
Ala	Phe	Leu	Asn	Gly	Asp	Gln	Asn	Leu	Ile	Gly	Thr	Phe	Ala	Ser	Arg
			405						410						415
Ile	Ser	Gly	Ser	Gln	Asp	Ile	Tyr	Pro	His	Gly	Ser	Pro	Thr	Asn	Ser
			420					425						430	
Ile	Asn	Tyr	Val	Ser	Cys	His	Asp	Gly	Phe	Thr	Leu	Cys	Asp	Thr	Val
		435					440					445			
Thr	Tyr	Asn	His	Lys	His	Asn	Glu	Ala	Asn	Gly	Glu	Asp	Asn	Arg	Asp
	450					455					460				
Gly	Thr	Asp	Ala	Asn	Tyr	Ser	Tyr	Asn	Phe	Gly	Thr	Glu	Gly	Lys	Thr
465					470					475					480
Glu	Asp	Pro	Gly	Ile	Leu	Glu	Val	Arg	Glu	Arg	Gln	Leu	Arg	Asn	Phe
			485						490					495	
Phe	Leu	Thr	Leu	Met	Val	Ser	Gln	Gly	Ile	Pro	Met	Ile	Gln	Ser	Gly
			500					505					510		
Asp	Glu	Tyr	Ala	His	Thr	Ala	Glu	Gly	Asn	Asn	Asn	Arg	Trp	Ala	Leu
		515					520					525			
Asp	Ser	Asn	Ala	Asn	Tyr	Phe	Leu	Trp	Asp	Gln	Leu	Thr	Ala	Lys	Pro
	530					535					540				
Thr	Leu	Met	His	Phe	Leu	Cys	Asp	Leu	Ile	Ala	Phe	Arg	Lys	Lys	Tyr
545					550					555					560
Lys	Thr	Leu	Phe	Asn	Arg	Gly	Phe	Leu	Ser	Asn	Lys	Glu	Ile	Ser	Trp
			565						570					575	
Val	Asp	Ala	Met	Gly	Asn	Pro	Met	Thr	Trp	Arg	Pro	Gly	Asn	Phe	Leu
			580					585					590		
Ala	Phe	Lys	Ile	Lys	Ser	Pro	Lys	Ala	His	Val	Tyr	Val	Ala	Phe	His
		595					600					605			
Val	Gly	Ala	Gln	Asp	Gln	Leu	Ala	Thr	Leu	Pro	Lys	Ala	Ser	Ser	Asn
	610					615					620				
Phe	Leu	Pro	Tyr	Gln	Ile	Val	Ala	Glu	Ser	Gln	Gln	Gly	Phe	Val	Pro
625					630					635					640
Gln	Asn	Val	Ala	Thr	Pro	Thr	Val	Ser	Leu	Gln	Pro	His	Thr	Thr	Leu
			645						650					655	
Ile	Ala	Ile	Ser	His	Ala	Lys	Glu	Val	Thr						
			660					665							

<210> 391  
 <211> 312  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 391															
Thr	Val	Phe	Asn	Phe	Lys	Arg	Phe	Tyr	Gln	Lys	Asp	Ser	Gln	Arg	Gln
1				5					10					15	
Asn	Gly	Asn	Thr	Thr	Cys	Leu	Arg	Pro	Phe	Lys	Lys	Thr	Cys	Lys	Glu
			20					25					30		
Leu	Ile	Glu	Phe	Arg	Arg	Arg	Thr	Val	Lys	Leu	Leu	Lys	Asn	Val	Leu
		35					40					45			
Leu	Gly	Leu	Phe	Phe	Ser	Met	Ser	Ile	Ser	Gly	Phe	Ser	Glu	Val	Lys
	50					55					60				
Val	Ser	Asp	Thr	Phe	Val	Lys	Gln	Asp	Thr	Val	Val	Glu	Pro	Lys	Ile
65					70					75					80
Arg	Val	Leu	Leu	Ser	Asn	Glu	Ser	Thr	Thr	Ala	Leu	Ile	Glu	Ala	Lys
				85					90					95	

Gly Pro Tyr Arg Ile Tyr Gly Asp Asn Val Leu Leu Asp Thr Ala Ile  
 100 105 110  
 Gln Gly Gln Arg Cys Val Val His Ala Leu Tyr Glu Gly Ile Arg Trp  
 115 120 125  
 Gly Glu Phe Tyr Pro Gly Leu Gln Cys Leu Lys Ile Glu Pro Val Asp  
 130 135 140  
 Asp Thr Ala Ser Leu Phe Phe Asn Gly Ile Gln Tyr Gln Gly Ser Leu  
 145 150 155 160  
 Tyr Val His Arg Lys Asp Asn His Cys Ile Met Val Ser Asn Glu Val  
 165 170 175  
 Thr Ile Glu Asp Tyr Leu Lys Ser Val Leu Ser Ile Lys Tyr Leu Glu  
 180 185 190  
 Glu Leu Asp Lys Glu Ala Leu Ser Ala Cys Ile Ile Leu Glu Arg Thr  
 195 200 205  
 Ala Leu Tyr Glu Lys Leu Leu Ala Arg Asn Pro Gln Asn Phe Trp His  
 210 215 220  
 Val Lys Ala Glu Glu Glu Gly Tyr Ala Gly Phe Gly Val Thr Lys Gln  
 225 230 235 240  
 Phe Tyr Gly Val Glu Glu Ala Ile Asp Trp Thr Ala Arg Leu Val Val  
 245 250 255  
 Asp Ser Pro Gln Gly Leu Ile Ile Asp Ala Gln Gly Leu Leu Gln Ser  
 260 265 270  
 Asn Val Asp Arg Leu Ala Ile Glu Gly Phe Asn Ala Arg Gln Ile Leu  
 275 280 285  
 Glu Lys Phe Tyr Lys Asp Val Asp Phe Val Val Ile Glu Ser Trp Asn  
 290 295 300  
 Glu Glu Leu Asp Gly Glu Ile Arg  
 305 310

<210> 392

<211> 346

<212> PRT

<213> Chlamydia pneumoniae

<400> 392

Arg Lys Ser Asp Arg Glu Gly Ser Tyr Met Thr His Gln Val Ala Val  
 1 5 10 15  
 Leu His Gln Asp Lys Lys Phe Asp Val Ser Leu Arg Pro Lys Gly Leu  
 20 25 30  
 Glu Glu Phe Tyr Gly Gln His His Leu Lys Glu Arg Leu Asp Leu Phe  
 35 40 45  
 Leu Cys Ala Ala Leu Gln Arg Gly Glu Val Pro Gly His Cys Leu Phe  
 50 55 60  
 Phe Gly Pro Pro Gly Leu Gly Lys Thr Ser Leu Ala His Ile Val Ala  
 65 70 75 80  
 Tyr Thr Val Gly Lys Gly Leu Val Leu Ala Ser Gly Pro Gln Leu Ile  
 85 90 95  
 Lys Pro Ser Asp Leu Leu Gly Leu Leu Thr Ser Leu Gln Glu Gly Asp  
 100 105 110  
 Val Phe Phe Ile Asp Glu Ile His Arg Met Gly Lys Val Ala Glu Glu  
 115 120 125  
 Tyr Leu Tyr Ser Ala Met Glu Asp Phe Lys Val Asp Ile Thr Ile Asp  
 130 135 140  
 Ser Gly Pro Gly Ala Arg Ser Val Arg Val Asp Leu Ala Pro Phe Thr  
 145 150 155 160  
 Leu Val Gly Ala Thr Thr Arg Ser Gly Met Leu Ser Glu Pro Leu Arg  
 165 170 175  
 Ala Arg Phe Ala Phe Ser Ala Arg Leu Ser Tyr Tyr Ser Asp Gln Asp  
 180 185 190  
 Leu Lys Glu Ile Leu Val Arg Ser Ser His Leu Leu Gly Ile Glu Ala  
 195 200 205

Asp	Ser	Ser	Ala	Leu	Leu	Glu	Ile	Ala	Lys	Arg	Ser	Arg	Gly	Thr	Pro
210						215				220					
Arg	Leu	Ala	Asn	His	Leu	Leu	Arg	Trp	Val	Arg	Asp	Phe	Ala	Gln	Ile
225				230						235					240
Arg	Glu	Gly	Asn	Cys	Ile	Asn	Gly	Asp	Val	Ala	Glu	Lys	Ala	Leu	Ala
			245						250					255	
Met	Leu	Leu	Ile	Asp	Asp	Trp	Gly	Leu	Asn	Glu	Ile	Asp	Ile	Lys	Leu
			260					265					270		
Leu	Thr	Thr	Ile	Ile	Asp	Tyr	Tyr	Gln	Gly	Gly	Pro	Val	Gly	Ile	Lys
		275					280					285			
Thr	Leu	Ser	Val	Ala	Val	Gly	Glu	Asp	Ile	Lys	Thr	Leu	Glu	Asp	Val
	290					295				300					
Tyr	Glu	Pro	Phe	Leu	Ile	Leu	Lys	Gly	Phe	Ile	Lys	Lys	Thr	Pro	Arg
305				310						315					320
Gly	Arg	Met	Val	Thr	Gln	Leu	Ala	Tyr	Asp	His	Leu	Lys	Arg	His	Ala
			325						330					335	
Lys	Asn	Leu	Leu	Ser	Leu	Gly	Glu	Gly	Gln						
		340						345							

<210> 393  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

Lys	Asp	Gln	Leu	Tyr	Lys	Gln	Glu	Lys	Pro	Ile	Pro	Lys	Ala	Thr	Ile
1			5					10					15		
Leu	Ser	Arg	Asn	Leu	Glu	Val	Met	Leu	Asp	Asn	Pro	Lys	Gly	Lys	Arg
			20					25					30		
Gln	Thr	Leu	Phe	Leu	Gly	Arg	Thr	Ser	Gly	Arg	Ser	Ala	Leu	Tyr	Ser
	35					40					45				
Tyr	Ser	Arg	Arg	Ile	Leu	Val	Leu	Leu	Asn	Ala	Phe	Met	Arg	Gly	Pro
50					55						60				

<210> 394  
 <211> 190  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Ser	Ile	Lys	Glu	Asp	Lys	Trp	Ile	Arg	Glu	Met	Ala	Leu	Asn	Ala
1			5					10					15		
Asp	Met	Ile	His	Pro	Phe	Val	Asn	Gly	Gln	Val	Asn	Val	Asn	Glu	Glu
		20					25					30			
Thr	Gly	Glu	Lys	Leu	Ile	Ser	Tyr	Gly	Leu	Ser	Ser	Tyr	Gly	Tyr	Asp
	35					40					45				
Leu	Arg	Leu	Ser	Arg	Glu	Phe	Lys	Val	Phe	Thr	Asn	Val	Tyr	Asn	Ser
50					55					60					
Val	Val	Asp	Pro	Lys	Cys	Phe	Thr	Glu	Asp	Ile	Phe	Ile	Ser	Ile	Thr
65				70						75				80	
Asp	Asp	Val	Cys	Ile	Val	Pro	Pro	Asn	Ser	Phe	Ala	Leu	Ala	Arg	Ser
			85					90						95	
Val	Glu	Tyr	Phe	Arg	Ile	Pro	Arg	Asn	Val	Leu	Thr	Met	Cys	Ile	Gly
		100					105					110			
Lys	Ser	Thr	Tyr	Ala	Arg	Cys	Gly	Ile	Ile	Val	Asn	Val	Thr	Pro	Phe
		115					120				125				
Glu	Pro	Glu	Trp	Glu	Gly	His	Val	Thr	Ile	Glu	Ile	Ser	Asn	Thr	Thr
	130					135				140					
Pro	Leu	Pro	Ala	Lys	Ile	Tyr	Ala	Asn	Glu	Gly	Ile	Ala	Gln	Val	Leu
145					150					155					160

Phe Phe Glu Ser Ser Thr Thr Cys Glu Val Ser Tyr Ala Asp Arg Lys  
165 170 175  
Gly Lys Tyr Gln Lys Gln Gln Gly Ile Thr Val Pro Cys Val  
180 185 190

<210> 395  
<211> 165  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 395  
Lys Phe Leu Thr Leu Arg His Cys Gln Arg Lys Phe Thr Leu Met Lys  
1 5 10 15  
Gly Leu Pro Arg Ser Tyr Ser Leu Ser Leu Val Arg Pro Ala Arg Phe  
20 25 30  
Leu Met Gln Thr Glu Lys Glu Ser Ile Lys Ser Asn Lys Ala Ser Pro  
35 40 45  
Tyr Leu Val Ser Lys Val Ser Val Arg Lys Lys Asn Trp Gly Phe Arg  
50 55 60  
Leu Leu Glu Glu Val Met Ile Lys Ser Trp Trp Val Ile Phe Ser Ile  
65 70 75 80  
Leu Ile Gly Gly Phe Val Tyr Asp Arg Ala Ile Gln Glu Leu Arg Thr  
85 90 95  
Glu Glu Leu Arg Leu Gln Ser Lys Val Ser Ser Leu Cys Gln Asp Ile  
100 105 110  
Leu Ser Ala Gln Glu Lys Gln Arg Gln Leu Gln Leu His Leu Gln His  
115 120 125  
Trp Gln Asp Ser Ala Ala Ile Glu Ala Ala Leu Ile Gln Arg Leu Gly  
130 135 140  
Leu Ile Pro Lys Gly Tyr Lys Lys Leu Cys Val Ser Pro Lys Gln Gln  
145 150 155 160  
Ser Glu Asn Lys Asp  
165

<210> 396  
<211> 414  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 396  
Lys Glu Thr Met Ile Pro Thr Met Leu Met Phe Phe Ile Ile Cys Phe  
1 5 10 15  
Thr Leu Cys Ser Gly Phe Ile Ser Leu Ser Gln Ile Ala Leu Phe Ser  
20 25 30  
Leu Pro Thr Ser Leu Ile Ser His Tyr Lys Arg Ser Lys Ser Lys Lys  
35 40 45  
Gln Gln Arg Val Ala Thr Leu Leu Leu His Pro His His Leu Leu Ile  
50 55 60  
Thr Leu Ile Phe Cys Asp Ile Gly Leu Asn Ile Ala Ile Gln Asn Cys  
65 70 75 80  
Phe Ala Ile Leu Phe Gly Asp Ala Ala Ser Trp Trp Phe Thr Val Gly  
85 90 95  
Leu Pro Leu Ala Ile Thr Leu Ile Leu Gly Glu Ile Leu Pro Lys Ala  
100 105 110  
Val Ala Leu Pro Phe Asn Thr Gln Ile Ala Ser Ser Val Ala Pro Leu  
115 120 125  
Ile Leu Cys Val Thr Lys Ile Phe Lys Pro Leu Leu His Trp Gly Ile  
130 135 140  
Val Gly Ile Asn Tyr Val Val Gln Trp Ile Leu Ser Lys Gln Gln Ile  
145 150 155 160



Asp	Ile	Ile	Gln	Pro	Gln	Glu	Leu	Lys	Glu	Val	Leu	Gln	Ser	Cys	Lys	
				165					170					175		
Asp	Phe	Gly	Val	Val	Asn	Gln	Glu	Glu	Ser	Arg	Leu	Leu	Tyr	Gly	Tyr	
			180					185					190			
Leu	Ser	Leu	Ser	Asp	Cys	Ser	Val	Lys	Glu	Arg	Met	Gln	Pro	Arg	Gln	
		195					200					205				
Asp	Ile	Leu	Phe	Tyr	Asp	Ile	Gln	Thr	Pro	Leu	Glu	Asn	Leu	Tyr	Leu	
	210					215					220					
Leu	Phe	Ser	Lys	Gln	His	Cys	Ser	Arg	Val	Pro	Ile	Cys	Asn	Asp	Asn	
225				230						235					240	
Leu	Gln	Asn	Leu	Leu	Gly	Ile	Cys	Thr	Ala	Arg	Ser	Leu	Leu	Leu	His	
			245						250					255		
Asp	Lys	Pro	Leu	Gln	Ser	Ser	Asp	Asp	Leu	Leu	Pro	Leu	Leu	Lys	Lys	
		260						265						270		
Pro	Tyr	Tyr	Met	Pro	Glu	Thr	Ile	Ser	Ala	Lys	Met	Ala	Leu	Cys	Gln	
	275						280					285				
Met	Ala	Ala	Glu	Asp	Glu	Thr	Leu	Gly	Met	Ile	Ile	Asp	Glu	Tyr	Gly	
	290					295					300					
Ser	Ile	Glu	Gly	Leu	Ile	Thr	Gln	Glu	Asp	Leu	Phe	Glu	Ile	Val	Ala	
305				310						315					320	
Gly	Glu	Ile	Val	Asp	Gln	Arg	Asp	Asn	Lys	Ile	Leu	Tyr	Thr	Thr	Ser	
			325						330					335		
Gly	Ala	Asp	Val	Ile	Ile	Ala	Ser	Gly	Thr	Leu	Glu	Leu	Arg	Glu	Phe	
		340						345						350		
Ser	Glu	Ile	Phe	Asp	Ile	Asn	Leu	Pro	Thr	Asn	Asn	Asn	Ile	Ala	Thr	
	355						360						365			
Ile	Gly	Gly	Trp	Leu	Ile	Glu	Gln	Ile	Gly	Thr	Ile	Pro	Thr	Thr	Gly	
	370					375					380					
Met	Lys	Leu	Ser	Trp	Asn	Asn	Leu	Leu	Phe	Gln	Val	Leu	Asp	Ala	Ala	
385				390						395					400	
Pro	Asn	Arg	Ile	Arg	Arg	Val	Tyr	Ile	Arg	Lys	Leu	Tyr	Asp			
			405						410							

<210> 397

<211> 407

<212> PRT

<213> Chlamydia pneumoniae

<400> 397

Gly	Asn	Cys	Met	Thr	Asn	Ser	Ala	Leu	Phe	Trp	Ile	Gly	Val	Asn	Ile	
1				5					10					15		
Ile	Cys	Ile	Val	Leu	Gln	Gly	Phe	Tyr	Ser	Met	Met	Glu	Met	Ala	Cys	
			20					25					30			
Val	Ser	Phe	Asn	Arg	Val	Arg	Leu	Gln	Tyr	Tyr	Leu	Thr	Lys	Asp	His	
		35				40						45				
Lys	Lys	Ala	Arg	Tyr	Ile	Asn	Phe	Leu	Ile	Arg	Arg	Pro	Tyr	Arg	Leu	
	50					55					60					
Phe	Gly	Thr	Val	Met	Leu	Gly	Val	Asn	Ile	Ala	Leu	Gln	Val	Gly	Ser	
65				70					75						80	
Glu	Ser	Ser	Arg	Asn	Cys	Tyr	Arg	Ala	Leu	Gly	Ile	Thr	Pro	Asp	Tyr	
			85						90					95		
Ala	Pro	Phe	Thr	Gln	Ile	Phe	Ile	Val	Val	Ile	Phe	Ala	Glu	Leu	Leu	
			100					105						110		
Pro	Leu	Thr	Ile	Ser	Arg	Lys	Ile	Pro	Glu	Lys	Leu	Ala	Leu	Trp	Gly	
	115						120							125		
Ala	Pro	Ile	Leu	Tyr	Tyr	Ser	His	Tyr	Ile	Phe	Tyr	Pro	Leu	Ile	Gln	
	130					135					140					
Leu	Ile	Gly	Ser	Leu	Thr	Glu	Gly	Leu	Tyr	Tyr	Leu	Leu	Asn	Ile	Arg	
145				150					155						160	
Lys	Glu	Lys	Leu	Asn	Ser	Thr	Leu	Ser	Arg	Asp	Glu	Phe	Gln	Lys	Ala	
			165						170						175	

Leu Glu Thr His His Glu Glu Gln Asp Phe Asn Thr Ile Ala Thr Asn  
 180 185 190  
 Ile Phe Ser Leu Ser Ala Thr Cys Ala Asp Gln Val Cys Gln Pro Leu  
 195 200 205  
 Glu Gln Val Thr Met Leu Pro Ser Ser Ala Asn Val Lys Asp Phe Cys  
 210 215 220  
 Arg Thr Ile Lys Asn Thr Asp Ile Asn Phe Ile Pro Val Tyr His Lys  
 225 230 235 240  
 Ala Arg Lys Asn Val Ile Gly Ile Ala His Pro Lys Asp Phe Val Asn  
 245 250 255  
 Lys Ala Leu Asp Glu Pro Leu Ile Asn Asn Leu His Ser Pro Trp Phe  
 260 265 270  
 Ile Thr Ala Lys Ser Lys Leu Ile Arg Ile Leu Lys Glu Phe Arg Asp  
 275 280 285  
 Asn Arg Ser Ser Val Ala Val Val Leu Asn Ala Ser Gly Glu Pro Ile  
 290 295 300  
 Gly Ile Leu Ser Leu Asn Ala Ile Phe Lys Ile Leu Phe Asn Thr Thr  
 305 310 315 320  
 Asn Ile Ala His Leu Lys Pro Lys Thr Ile Ser Val Ile Glu Arg Thr  
 325 330 335  
 Phe Pro Gly Asn Ser Arg Ile Lys Asp Leu Gln Lys Glu Leu Asp Ile  
 340 345 350  
 Gln Phe Pro Gln Tyr Pro Val Glu Thr Leu Ala Gln Leu Val Leu Gln  
 355 360 365  
 Leu Leu Asp Ser Pro Ala Glu Val Gly Thr Ser Val Ile Ile Asn Asn  
 370 375 380  
 Leu Leu Leu Glu Val Lys Glu Met Ser Leu Ser Gly Ile Lys Thr Val  
 385 390 395 400  
 Ser Ile Lys Asn Leu Leu Ser  
 405

<210> 398

<211> 373

<212> PRT

<213> *Chlamydia pneumoniae*

<400> 398

Tyr Ser Met Ile Tyr Leu Asp Asn Asn Ala Met Thr Pro Pro Glu Arg  
 1 5 10 15  
 Gly Leu Leu Glu Phe Leu Gln Lys Thr Phe Leu Ile Glu Gly Thr Tyr  
 20 25 30  
 Ala Asn Pro Ser Ser Val His Gln Leu Gly Lys Lys Ser Arg Gln Leu  
 35 40 45  
 Val Leu Glu Ala Ser His Trp Met Gln Lys Val Leu Ser Phe Gln Gly  
 50 55 60  
 Arg Val Leu Tyr Thr Ser Gly Ala Thr Glu Ser Leu Asn Leu Ala Ile  
 65 70 75 80  
 Ala Ser Leu Pro Lys Asp Ser His Val Ile Thr Ser Gly Ser Glu His  
 85 90 95  
 Pro Ala Ile Leu Glu Pro Leu Lys His Ser Ser Leu Ser Val Ser Tyr  
 100 105 110  
 Leu Asn Pro Glu Glu Gly Arg Cys Val Leu Thr Ile Glu Gln Ile Glu  
 115 120 125  
 Arg Ala Val Thr Pro Lys Thr Ser Ala Ile Ile Leu Gly Trp Val Asn  
 130 135 140  
 Ser Glu Thr Gly Ala Lys Ala Asp Ile Ala Ala Ile Ala His Phe Ala  
 145 150 155 160  
 Gln Glu Arg Gln Leu Gln Phe Ile Val Asp Ala Thr Ala Asn Val Gly  
 165 170 175  
 Lys Glu Arg Ile Val Leu Pro Ser Gly Val Thr Met Ala Ala Phe Ser  
 180 185 190

Gly His Lys Phe His Ala Leu Ser Gly Ile Gly Ala Leu Leu Val Ser  
           195                  200                  205  
 Pro Gly Val Lys Leu His Pro Gln Leu Trp Gly Gly Gly Gln Gln Gly  
           210                  215                  220  
 Gly Leu Arg Ala Gly Thr Glu Asn Leu Trp Gly Ile Ala Ser Leu Leu  
 225                  230                  235                  240  
 Tyr Ile Phe Lys Tyr Leu Asp Leu His Gln Glu Arg Ile Ser Gln Glu  
                   245                  250                  255  
 Ile Leu Thr His Arg Asn Gly Phe Glu Lys Ala Ile Lys Ala Arg Ile  
                   260                  265                  270  
 Pro Asp Val His Ile His Cys Ala Asp Gln Pro Arg Ala Asn Asn Val  
           275                  280                  285  
 Ser Ala Ile Ala Phe Pro Pro Leu Glu Gly Glu Val Leu Gln Ile Ala  
           290                  295                  300  
 Leu Asp Ile Glu Gly Val Ala Cys Gly Tyr Gly Ser Ala Cys Ser Ser  
 305                  310                  315                  320  
 Gly Ala Thr Ala Pro Phe Lys Ser Leu Val Ser Met Gly Val Asp Glu  
                   325                  330                  335  
 Glu Leu Thr Leu Ala Thr Leu Arg Phe Ser Phe Ser His Leu Leu Leu  
                   340                  345                  350  
 Gln Glu Asp Val Glu Arg Ala Val Gly Ile Ile Glu Lys Val Val Glu  
           355                  360                  365  
 Arg Leu Lys Asn Ser  
 370

<210> 399

<211> 248

<212> PRT

<213> Chlamydia pneumoniae

<400> 399

Glu His Phe Val Asp Phe Asp Tyr Phe Gly Leu Ser Asp Ile Gly Arg  
 1                  5                  10                  15  
 Val Arg Ala Arg Asn Glu Asp Phe Trp Gln Val Asn Leu Met Ser Gln  
           20                  25                  30  
 Val Val Ala Ile Ala Asp Gly Val Gly Gly Arg Leu Gly Gly Asp Ile  
           35                  40                  45  
 Ala Ser Gln Glu Ala Val Thr Ser Leu Met Glu Leu Ile Asp Glu Gln  
           50                  55                  60  
 Gln Ser Lys Leu Met Gly Tyr Gly Asp Asp Gln Tyr Lys Glu Thr Leu  
 65                  70                  75                  80  
 Lys Lys Ile Leu Leu Glu Val Asn Gly Val Val Tyr Glu His Gly Gln  
           85                  90                  95  
 Met Glu Glu His Leu Gln Gly Met Gly Thr Thr Leu Ser Phe Ile Gln  
           100                  105                  110  
 Phe Arg Lys Asp Arg Ala Trp Leu Phe His Val Gly Asp Ser Arg Ile  
           115                  120                  125  
 Tyr Arg Ile Arg Glu Gly Glu Leu Arg Arg Leu Thr Glu Asp His Ser  
           130                  135                  140  
 Leu Glu Asn Gln Leu Lys Asn Arg Tyr Gly Leu Pro Lys Gln Ser Asp  
 145                  150                  155                  160  
 Lys Val Tyr Ser Tyr Arg His Ile Leu Thr Asn Val Leu Gly Ser Arg  
           165                  170                  175  
 Pro Tyr Val Met Pro Asp Ile Arg Asn Leu Pro Cys Glu Lys Glu Asp  
           180                  185                  190  
 Leu Tyr Cys Leu Cys Ser Asp Gly Leu Thr Asn Met Val Pro Asp Ile  
           195                  200                  205  
 Asp Ile Arg Asp Ile Leu Asn Gln Pro Ala Thr Leu Glu Glu Arg Gly  
           210                  215                  220  
 Asn Ala Leu Ile Ser Leu Ala Asn Thr Arg Gly Gly Asp Asp Asn Ala  
 225                  230                  235                  240

Thr Val Val Leu Val Arg Ile Gln  
245

<210> 400  
<211> 61  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 400  
Ile Glu Glu Leu Pro Met Gln Ile Glu Asn Ser Ser Ile Leu Phe Ala  
1 5 10 15  
Glu Val Val Met Lys Trp Phe Ile Phe Ser Val Ile Ser Ala Pro Val  
20 25 30  
Val Phe Leu Pro Gly Cys Thr Leu Ile Pro Lys Glu Lys Val Thr Lys  
35 40 45  
Val Pro Ser Gln Leu Trp Ser Glu Ser Leu Ser Gln Pro  
50 55 60

<210> 401  
<211> 255  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 401  
Tyr Lys Leu Met Arg Val Leu Asn Gly Lys Ser Leu Asn Cys Glu Ser  
1 5 10 15  
Ile Asp Leu Lys Ser Lys Asn Phe Pro Arg Ala Arg Ile Phe Cys Lys  
20 25 30  
Ile Ser Asn Leu Arg Thr Val Thr Met Arg Lys Met Leu Val Leu Leu  
35 40 45  
Ala Ser Leu Gly Leu Leu Ser Pro Thr Leu Ser Ser Cys Thr His Leu  
50 55 60  
Gly Ser Ser Gly Ser Tyr His Pro Lys Leu Tyr Thr Ser Gly Ser Lys  
65 70 75 80  
Thr Lys Gly Val Ile Ala Met Leu Pro Val Phe His Arg Pro Gly Lys  
85 90 95  
Ser Leu Glu Pro Leu Pro Trp Asn Leu Gln Gly Glu Phe Thr Glu Glu  
100 105 110  
Ile Ser Lys Arg Phe Tyr Ala Ser Glu Lys Val Phe Leu Ile Lys His  
115 120 125  
Asn Ala Ser Pro Gln Thr Val Ser Gln Phe Tyr Ala Pro Ile Ala Asn  
130 135 140  
Arg Leu Pro Glu Thr Ile Ile Glu Gln Phe Leu Pro Ala Glu Phe Ile  
145 150 155 160  
Val Ala Thr Glu Leu Leu Glu Gln Lys Thr Gly Lys Glu Ala Gly Val  
165 170 175  
Asp Ser Val Thr Ala Ser Val Arg Val Arg Val Phe Asp Ile Arg His  
180 185 190  
His Lys Ile Ala Leu Ile Tyr Gln Glu Ile Ile Glu Cys Ser Gln Pro  
195 200 205  
Leu Thr Thr Leu Val Asn Asp Tyr His Arg Tyr Gly Trp Asn Ser Lys  
210 215 220  
His Phe Asp Ser Thr Pro Met Gly Leu Met His Ser Arg Leu Phe Arg  
225 230 235 240  
Glu Val Val Ala Arg Val Glu Gly Tyr Val Cys Ala Asn Tyr Ser  
245 250 255

<210> 402  
<211> 260  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 402

Ser	Lys	Glu	Met		Ser	Lys	Phe	Ile	Leu	Leu	Leu	Ser	Leu	Gly	Val	Ala
1				5						10					15	
Ala	Leu	Ala	Ser	Lys	Asn	Phe	Phe	Ile	Trp	Pro	Ala	Pro	Ser	Gly	Lys	
			20					25					30			
Thr	Pro	Leu	Lys	Leu	Arg	Gln	Val	Leu	Phe	Gly	Gly	Ala	Leu	Leu	Val	
	35					40						45				
Phe	Ser	Ser	Leu	Val	Ala	Leu	Ser	Val	Ser	Ser	Gln	Thr	Ala	Glu	Leu	
	50					55					60					
Leu	Ser	Thr	Met	Thr	Gly	Ile	Ser	Leu	Ala	Phe	Ala	Phe	Leu	Phe	Tyr	
65					70					75					80	
Leu	Leu	Phe	Leu	Pro	Lys	Asp	Ile	Thr	Arg	Ala	Ile	Leu	Phe	Ser	Gly	
			85					90						95		
Glu	Arg	Pro	Val	Lys	Thr	Ser	Trp	Arg	Ala	Leu	Gly	Ser	Ala	Ile	Arg	
			100					105					110			
Met	Trp	Ile	Ile	Ile	Ile	Pro	Val	Thr	Gln	Leu	Ile	Gly	Ile	Met	Met	
	115						120					125				
Ser	Lys	Phe	Leu	Thr	Leu	Val	Leu	Pro	Thr	Gln	Glu	Ile	His	Thr	Gln	
	130					135					140					
Glu	Val	Thr	Gln	Glu	Val	Gln	Asn	Ser	Leu	Pro	Ile	Thr	Gly	His	Tyr	
145					150					155					160	
Ile	Ser	Met	Ile	Leu	Asn	Leu	Gly	Val	Leu	Thr	Pro	Phe	Gly	Glu	Glu	
			165					170						175		
Val	Phe	Phe	Arg	Gly	Ile	Leu	Gln	Thr	Phe	Leu	Lys	Asn	Lys	Met	Thr	
			180					185					190			
Arg	Ile	Ala	Ala	Val	Leu	Cys	Ser	Ser	Ile	Ile	Phe	Ser	Phe	Ile	His	
		195					200					205				
Ile	Glu	His	Ser	Leu	Gly	Ser	Trp	Val	Phe	Val	Pro	Val	Leu	Phe	Val	
	210					215					220					
Phe	Ser	Leu	Ser	Ala	Gly	Phe	Leu	Tyr	Glu	Lys	Asp	Arg	His	Ile	Leu	
225					230					235					240	
Ser	Pro	Ile	Ala	Leu	His	Gly	Leu	Phe	Asn	Leu	Thr	Ser	Leu	Leu	Phe	
				245					250					255		
Leu	Gly	Ile	Lys													
			260													

<210> 403

<211> 130

<212> PRT

<213> Chlamydia pneumoniae

<400> 403

Met	Arg	Asp	His	Ala	Phe	Ser	Lys	Leu	Ile	Gly	Thr	Val	Arg	Ala	Met	
1				5					10					15		
Val	Val	Glu	Gly	Arg	Cys	Pro	Trp	Ser	Leu	Gln	Gln	Ser	Leu	Val	Ser	
			20					25					30			
Met	Val	Glu	His	Ile	Leu	Gly	Glu	Cys	Gln	Glu	Phe	His	Glu	Ala	Val	
	35					40						45				
Leu	Gln	Gly	Lys	Thr	Val	Gln	Glu	Val	Gly	Ser	Glu	Ala	Gly	Asp	Val	
	50					55					60					
Leu	Thr	Leu	Val	Leu	Ile	Leu	Cys	Phe	Leu	Leu	Glu	Arg	Glu	Gly	Val	
65					70					75					80	
Leu	Ala	Ser	Glu	Asp	Val	Ala	Asn	Glu	Ala	Met	Glu	Lys	Leu	Arg	Arg	
			85					90					95			
Arg	Ala	Pro	Tyr	Ile	Phe	Ala	Glu	Asp	Tyr	Lys	Pro	Val	Ser	Ile	Glu	
		100						105					110			
Glu	Ala	Asp	Arg	Leu	Trp	Glu	Leu	Ala	Lys	His	Arg	Glu	Lys	Asn	Glu	
		115					120					125				
Ser	Thr															
	130															

<210> 404  
 <211> 375  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 404  
 Asn Phe Lys Arg Phe Cys Met Thr Lys Ile Ala Phe Ser Glu Lys Ala  
 1 5 10 15  
 Lys Asn Phe Pro Val Glu Ala Leu Lys Lys Trp Phe Glu Lys Asn Lys  
 20 25 30  
 Arg Ser Leu Pro Trp Arg Asp Asn Pro Thr Pro Tyr Ser Val Trp Val  
 35 40 45  
 Ser Glu Val Met Leu Gln Gln Thr Arg Ala Glu Val Val Ile Asp Tyr  
 50 55 60  
 Phe Asn Gln Trp Met Glu Arg Phe Pro Thr Ile Glu Ser Leu Ala Ala  
 65 70 75 80  
 Ala Lys Glu Glu Asp Val Ile Lys Leu Trp Glu Gly Leu Gly Tyr Tyr  
 85 90 95  
 Ser Arg Ala Arg His Leu Leu Glu Gly Ala Arg Met Val Met Glu Glu  
 100 105 110  
 Phe His Gly Lys Ile Pro Asp Asp Ala Ile Ser Leu Ala Gln Ile Arg  
 115 120 125  
 Gly Val Gly Pro Tyr Thr Val His Ala Ile Leu Ala Phe Ala Phe Lys  
 130 135 140  
 Arg Arg Ala Ala Ala Val Asp Gly Asn Val Leu Arg Val Leu Ser Arg  
 145 150 155 160  
 Ile Phe Leu Ile Glu Thr Ser Ile Asp Leu Glu Ser Thr Arg Thr Trp  
 165 170 175  
 Val Ser Arg Ile Ala Gln Ala Leu Leu Pro His Lys Ser Pro Glu Val  
 180 185 190  
 Ile Ala Glu Ala Leu Ile Glu Leu Gly Ala Cys Ile Cys Lys Lys Val  
 195 200 205  
 Pro Gln Cys His Arg Cys Pro Val Arg Gln Ala Cys Gly Ala Trp Arg  
 210 215 220  
 Glu Asn Lys Gln Phe Val Leu Pro Val Arg His Ala Arg Lys Lys Val  
 225 230 235 240  
 Ile Phe Leu His Arg Leu Val Ala Ile Val Leu Tyr Asp Gly Ser Leu  
 245 250 255  
 Val Val Glu Lys Arg Arg Pro Lys Glu Met Met Ala Gly Leu Tyr Glu  
 260 265 270  
 Phe Pro Tyr Ile Glu Val Glu Pro Glu Glu Gly Leu Gln Asp Ile Glu  
 275 280 285  
 Gly Phe Thr Lys Lys Met Glu Leu Ser Leu Glu Ser Pro Leu Glu Phe  
 290 295 300  
 Leu Gly Asn Leu Lys Glu Gln Arg His Ala Phe Thr Asn His Lys Val  
 305 310 315 320  
 His Leu Cys Pro Ile Ile Phe Lys Ala Thr Ser Leu Pro Gln Phe Gly  
 325 330 335  
 Glu Leu His Leu Leu Ser Asp Ile Asp His Leu Ala Phe Ser Ser Gly  
 340 345 350  
 His Lys Lys Ile Lys Asp Ala Leu Leu Ile Tyr Leu Gly Asp Val Arg  
 355 360 365  
 Ser Arg Glu Ser Ile Gly Val  
 370 375

<210> 405  
 <211> 234  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 405

Asn	Phe	Met	Gln	Leu	Ser	Asn	Asp	Lys	Arg	Ala	Ala	Leu	Gln	Tyr	Phe
1				5					10					15	
Met	Glu	Asn	Phe	Ser	Trp	Leu	Ala	Thr	Gln	Val	Ser	Arg	Leu	Ser	Ser
			20					25					30		
Phe	Leu	Arg	Ser	Gln	Leu	Pro	Asn	His	Ser	Lys	Gln	Glu	Ile	Leu	Ala
		35					40					45			
Ser	Ile	Arg	Gln	His	Arg	Cys	Arg	Val	Asn	Gly	Phe	Ile	Glu	Arg	Phe
	50					55					60				
Glu	Ser	Tyr	Lys	Val	Gln	Pro	Gly	Asp	Arg	Val	Ser	Leu	Ser	Leu	Ile
65					70					75					80
Pro	Ser	Thr	Lys	Gln	Gln	Pro	Ser	Ile	Leu	Trp	Glu	Asp	Asp	Tyr	Ser
				85					90					95	
Ile	Ile	Tyr	Glu	Lys	Pro	Pro	His	Leu	Thr	Thr	Glu	Gln	Met	Ala	His
			100					105					110		
Met	Thr	Arg	Phe	Phe	Thr	Val	His	Arg	Leu	Asp	Lys	Gly	Thr	Ser	Gly
		115					120					125			
Cys	Leu	Leu	Met	Gly	Lys	Ser	Lys	Gln	Ala	Ala	Thr	Glu	Leu	Met	Lys
	130					135					140				
Leu	Phe	Lys	Gln	Arg	Lys	Ile	His	Lys	Gln	Tyr	Ile	Ala	Phe	Val	Phe
145					150					155					160
Gly	His	Pro	Lys	Lys	Lys	Phe	Gly	Thr	Val	Lys	Ser	Tyr	Thr	Ala	Pro
				165					170					175	
Val	Tyr	Arg	Arg	Cys	Gly	Ala	Val	Ile	Phe	Gly	Ala	Ala	Gly	Pro	Ser
			180					185					190		
Gln	Gly	Glu	Pro	Ile	Lys	Ser	Ala	Tyr	Lys	Trp	Asp	Cys	Trp	Val	Ile
		195					200					205			
Leu	Leu	Ser	Glu	Met	Ser	Thr	Thr	Asp	Leu	Lys	Asn	Ser	Leu	Pro	Arg
	210					215					220				
Ser	Ser	Ala	Leu	Ser	Ser	Met	Leu	Thr	Pro						
225						230									

<210> 406

<211> 364

<212> PRT

<213> Chlamydia pneumoniae

<400> 406

Glu	Leu	Glu	Ala	Leu	Glu	Gln	Lys	Tyr	Gly	Lys	Ala	Val	Leu	Leu	Ile
1				5					10					15	
Ala	Leu	Ser	Glu	Leu	Gly	Ile	Asp	Thr	Met	Ser	Leu	Leu	Ser	Gly	His
			20					25					30		
Arg	Leu	Glu	Gly	Phe	Pro	Pro	Ile	Ala	Glu	Val	Met	Ala	Ala	Cys	Asp
		35					40					45			
Arg	Cys	Ser	Met	Asp	Phe	Cys	Glu	Ile	Leu	Lys	Ser	Gln	Ser	Met	Asp
	50					55					60				
Leu	Trp	Ala	Asp	Ala	Ala	Ser	Cys	Val	Asp	Gly	Leu	Leu	Gln	Asp	Pro
65					70					75					80
Phe	Trp	Ser	Thr	Ala	Ile	Ala	Ser	Gly	Ile	Ala	Lys	Ser	Ser	Leu	Gln
			85					90						95	
Glu	Thr	Glu	Phe	Glu	Cys	Glu	Ser	Lys	Val	Met	Val	Leu	Ser	Ser	Trp
			100					105					110		
Gly	Glu	Gln	Gly	Ala	Gln	Val	Cys	Ser	Pro	Phe	Asn	Leu	Glu	Arg	Ile
		115					120					125			
Cys	Met	Ser	Phe	Pro	Ser	Leu	Lys	Val	Phe	Ser	Leu	Lys	Lys	Asn	Gly
	130					135					140				
Cys	Glu	Asn	Met	Gly	Ile	Gln	Leu	Ser	Ala	Ser	Cys	Met	Asn	Leu	Leu
145					150					155					160
Met	Ser	Ile	Phe	Phe	Val	Ala	Thr	Asn	Gly	Gly	Ser	Thr	Pro	Ile	Trp
				165					170					175	

Ile	Thr	Lys	Glu	Asn	Leu	Met	Ala	Leu	Val	Ala	Leu	Val	Leu	Ser	His
			180					185					190		
Tyr	Gln	Cys	Tyr	Phe	Val	Pro	Ala	Thr	Gly	Asp	Pro	Gln	Arg	Gly	Asn
		195					200					205			
Ile	Leu	Gly	Asn	Pro	Glu	Val	Asn	Ala	Ile	Leu	Ala	Arg	Gly	Met	Gly
	210					215					220				
Met	Arg	Val	Asp	Leu	Glu	Arg	Lys	Arg	Gly	Gly	Glu	Ser	Ser	Ser	Ser
225					230					235					240
Arg	Tyr	Leu	Glu	Leu	Ala	Ala	Arg	Cys	Phe	Glu	Asn	Ser	Leu	Thr	Lys
				245					250					255	
Thr	Ser	Leu	Leu	Ser	Asp	Ala	Asn	Asn	Val	Gln	Glu	Arg	Asp	Lys	Cys
		260						265					270		
Leu	Leu	Gln	Met	Ser	Thr	Ser	Leu	Met	His	Thr	Ala	Gly	Leu	Asn	Leu
		275						280				285			
Gln	Arg	Pro	Pro	Val	Pro	Thr	Pro	Ser	Gly	Val	Thr	Ala	His	Pro	Gln
	290					295					300				
Pro	Gln	Pro	Asp	Pro	Val	Val	Thr	Ser	Gln	Pro	Ser	Leu	Leu	Gly	Ala
305					310					315					320
Arg	Glu	Arg	Ser	Pro	Val	Ser	Ser	Arg	Gly	Arg	Phe	Pro	Val	Val	Leu
			325						330					335	
Pro	Leu	Ser	Val	Ile	Ser	Pro	Arg	Ser	His	Pro	Gly	Arg	Val	Glu	Arg
			340				345						350		
Arg	Asp	Leu	Glu	Asp	Glu	Glu	Glu	Glu	Val	Met	Phe				
		355					360								

<210> 407

<211> 283

<212> PRT

<213> Chlamydia pneumoniae

<400> 407

Asn	Ile	Gln	Thr	Ser	His	Ser	Arg	Val	Leu	Leu	Lys	Lys	Phe	Ser	Lys
1				5					10					15	
Glu	Phe	Thr	Ile	Arg	Thr	Tyr	Arg	Ser	Leu	Gly	Phe	Thr	Asp	Tyr	Leu
			20					25					30		
Gly	Gly	Cys	Leu	Thr	Asn	Pro	Leu	Gly	Lys	Phe	Pro	Ser	Pro	Gln	Asn
		35					40					45			
Pro	Gln	Val	Val	Thr	Ile	Ala	Pro	Ser	Ser	Thr	Thr	Pro	Gln	Ala	Val
	50					55					60				
Ser	Ser	Ala	Val	Gln	Gly	Phe	Leu	Gln	Thr	Gly	Gly	Ala	Ala	Ser	Ser
65					70					75					80
Thr	Ala	Thr	Thr	Thr	Thr	Ala	Ser	Gly	Ala	Ser	Ala	Leu	Gly	Leu	Ser
			85						90					95	
Pro	Asp	Gln	Val	Gln	Ala	Leu	Leu	Thr	Asn	Leu	Leu	Asn	Val	Gly	Gln
			100					105					110		
Pro	Ser	Val	Gly	Gln	Pro	Ser	Thr	Ser	Ala	Gly	Thr	Ser	Gly	Ala	Ser
		115					120					125			
Ser	Ser	Ser	Ala	Ser	Met	Gln	Gln	Gln	Leu	Leu	Gln	Leu	Ile	Leu	Asp
	130					135					140				
Lys	Thr	Thr	Gly	Ser	Gly	Ser	Ser	Val	Ser	Ser	Glu	Gln	Leu	Gln	
145					150				155					160	
Gln	Leu	Leu	Ser	Leu	Val	Ser	Gln	Met	Thr	Thr	Ser	Gln	Gly	Gly	Ser
				165					170					175	
Gly	Gly	Thr	Gln	Ala	Gly	Gln	Ala	Ala	Ser	Val	Leu	Leu	Asn	Leu	Leu
			180					185					190		
Ser	Ala	Thr	Gly	Ser	Ala	Ala	Ala	Asn	Pro	Leu	Gly	Thr	Ala	Ala	Ser
		195					200					205			
Leu	Ala	Gln	Ile	Ile	Tyr	Ala	Ala	Val	Thr	Ser	Pro	Gly	Ala	Lys	Lys
	210					215					220				
Thr	Ser	Glu	Phe	Cys	Tyr	Asn	Tyr	Cys	Gly	Glu	Thr	Cys	Gln	Gly	Asn
225					230					235					240



Cys Gly Cys Pro Thr Cys Gly Cys Pro Asp Gly Gln Cys Gly Cys Gly  
245 250 255  
Gly Phe Gly Arg Phe Phe Cys Gly Val Trp Lys Asn Cys Cys Gly Ile  
260 265 270  
Gly Glu Gly Ser Gln Glu Pro Ala Ile Pro Leu  
275 280

<210> 408  
<211> 302  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 408  
Gly Gly Phe Met Leu Lys Ile Asp Leu Thr Gly Lys Val Ala Phe Val  
1 5 10 15  
Ala Gly Ile Gly Asp Asp Gln Gly Tyr Gly Trp Gly Ile Ala Lys Leu  
20 25 30  
Leu Ala Glu Ala Gly Ala Thr Ile Val Gly Thr Trp Val Pro Ile  
35 40 45  
Tyr Lys Ile Phe Ser Gln Ser Trp Glu Leu Gly Lys Phe Asn Glu Ser  
50 55 60  
Arg Lys Leu Ser Asn Gly Thr Leu Leu Glu Ile Ala Lys Ile Tyr Pro  
65 70 75 80  
Met Asp Ala Ser Phe Asp Ser Pro Glu Asp Val Pro Glu Asp Ile Ala  
85 90 95  
Glu Asn Lys Arg Tyr Lys Gly Ile Thr Gly Phe Thr Ile Ser Glu Val  
100 105 110  
Ala Glu Gln Val Lys Lys Asp Phe Gly His Ile Asp Ile Leu Val His  
115 120 125  
Ser Leu Ala Asn Ser Pro Glu Ile Ser Lys Ser Leu Leu Glu Thr Ser  
130 135 140  
Arg Lys Gly Tyr Leu Ala Ala Leu Ser Ala Ser Ser Tyr Ser Phe Val  
145 150 155 160  
Ser Leu Leu Ser His Phe Gly Ser Ile Met Asn Arg Gly Gly Ser Thr  
165 170 175  
Ile Ser Leu Thr Tyr Leu Ala Ser Met Arg Ala Val Pro Gly Tyr Gly  
180 185 190  
Gly Gly Met Ser Ser Ala Lys Ala Ala Leu Glu Ser Asp Thr Lys Thr  
195 200 205  
Leu Ala Trp Glu Ala Gly Arg Arg Trp Gly Ile Arg Val Asn Thr Ile  
210 215 220  
Ser Ala Gly Pro Leu Ala Ser Arg Ala Gly Lys Ala Ile Gly Phe Ile  
225 230 235 240  
Glu Arg Met Val Asp Tyr Tyr Gln Glu Trp Ala Pro Ile Pro Glu Ala  
245 250 255  
Met Asn Ala Glu Gln Val Gly Ala Val Ala Ala Phe Leu Ala Ser Pro  
260 265 270  
Leu Ala Ser Ala Ile Thr Gly Glu Thr Leu Tyr Val Asp His Gly Ala  
275 280 285  
Asn Val Met Gly Ile Gly Pro Glu Met Phe Pro Lys Asp Ser  
290 295 300

<210> 409  
<211> 300  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 409  
Asn Tyr Gly Asp Ala Met Glu Lys Leu Leu Val Thr Asp Ile Asp Gly  
1 5 10 15

Thr	Ile	Thr	His	Gln	Ser	His	His	Leu	Asp	Lys	Lys	Val	Tyr	Glu	Arg
			20					25					30		
Leu	Tyr	Ala	Leu	His	Gln	Ala	Gly	Trp	Lys	Leu	Phe	Phe	Leu	Thr	Gly
		35					40					45			
Arg	Tyr	Tyr	Lys	Tyr	Ala	Ala	Arg	Leu	Phe	Ser	Asp	Phe	Asp	Ala	Pro
	50				55						60				
Tyr	Leu	Leu	Gly	Cys	Gln	Asn	Gly	Ala	Ser	Val	Trp	Ser	Ser	Thr	Ser
65					70					75					80
Ser	Asn	Leu	Leu	Tyr	Ser	Lys	Ser	Leu	Pro	Ser	Asp	Leu	Leu	Cys	Ile
				85					90					95	
Leu	Gln	Asp	Cys	Met	Glu	Gly	Ala	Thr	Ala	Leu	Phe	Ser	Val	Glu	Ser
		100						105					110		
Gly	Ala	Pro	Tyr	Gly	Asp	His	Tyr	Tyr	Arg	Phe	Ser	Pro	Thr	Pro	Ile
	115						120					125			
Ala	Gln	Asp	Leu	His	Glu	Tyr	Val	Asp	Pro	Arg	Tyr	Phe	Pro	Asn	Ala
	130					135					140				
Lys	Glu	Arg	Glu	Ile	Leu	Phe	Glu	Thr	Arg	Ser	Leu	Lys	Asp	Asp	Tyr
145					150					155					160
Ala	Phe	Pro	Ser	Phe	Ala	Ala	Ala	Lys	Val	Phe	Gly	Leu	Arg	Asp	Glu
				165					170					175	
Val	Ile	Arg	Ile	Gln	Lys	Glu	Leu	Glu	Arg	Gln	Glu	Ala	Leu	Thr	Ser
			180					185					190		
Val	Ala	Thr	Met	Thr	Leu	Met	Arg	Trp	Pro	Phe	Asp	Phe	Arg	Tyr	Ala
	195						200					205			
Ile	Leu	Phe	Leu	Thr	Asp	Lys	Ser	Val	Ser	Lys	Gly	Lys	Ala	Leu	Asp
	210					215					220				
Arg	Val	Val	Asn	Ile	Leu	Tyr	Asp	Gly	Lys	Lys	Pro	Phe	Val	Met	Ala
225					230					235					240
Ser	Gly	Asp	Asp	Ala	Asn	Asp	Leu	Asp	Leu	Ile	Glu	Arg	Gly	Asp	Phe
				245					250					255	
Lys	Ile	Val	Met	Ser	Ser	Ala	Pro	Glu	Glu	Met	His	Val	His	Ala	Asp
		260						265					270		
Phe	Leu	Ala	Pro	Pro	Ala	Asp	Lys	Asn	Gly	Ile	Leu	Ser	Ala	Trp	Glu
	275						280						285		
Ala	Gly	Val	Arg	Tyr	Tyr	Asp	Asp	Leu	Met	Ser	Leu				
	290					295					300				

<210> 410

<211> 164

<212> PRT

<213> Chlamydia pneumoniae

<400> 410

Ser	Arg	Val	Leu	His	Met	Phe	Phe	Asn	Leu	Phe	Ser	Leu	Val	Phe	Lys
1				5					10					15	
Leu	Ser	Asp	Glu	Leu	Ala	Leu	Ala	Glu	Thr	Ile	Gln	Glu	Pro	Ile	Ser
			20					25					30		
Val	His	Glu	Met	Phe	Pro	Gly	Ser	Met	Lys	Leu	Glu	Met	Phe	Lys	Met
		35					40					45			
Leu	Gly	Ser	Leu	Ile	Leu	Leu	Thr	Ile	Phe	Gly	Phe	Gly	Val	Trp	
	50					55				60					
Ala	Phe	Lys	Lys	Phe	Val	Arg	Ser	Arg	Ser	His	Gly	Phe	Gly	Gly	Ser
65					70					75					80
Ser	Gln	Ile	Lys	Ile	Leu	Glu	Arg	Arg	Ser	Leu	Thr	Pro	Lys	Thr	Ser
				85					90					95	
Ile	Tyr	Leu	Ile	Arg	Val	Val	Asn	Lys	Thr	Leu	Val	Ile	Ala	Glu	Thr
		100						105					110		
Pro	Glu	Lys	Ile	Thr	Leu	Leu	Thr	Glu	Phe	Pro	Pro	Asp	Thr	Asp	Ile
	115						120					125			
Asn	His	Leu	Leu	Gln	Glu	Asn	Asn	Lys	Gln	Ser	Ser	Ser	Ser	Ala	Thr
	130					135						140			

Ser Asp Phe Leu Ser Lys Ala Ile Gln Lys Ile Gln Lys Lys Gln Gln  
 145 150 155 160  
 Thr Asn Gln Asp

<210> 411  
 <211> 161  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 411  
 Met Thr Thr Trp Thr Leu Asn Gln Asn Asn Leu Thr Lys Phe Leu Lys  
 1 5 10 15  
 Ser Ser Asp Glu Glu Pro Phe Leu Glu Arg Glu Ser Gly Leu Thr Tyr  
 20 25 30  
 Ile Asn Ile Gln Ala Asn Gly Asn Glu Leu Pro Leu Phe Phe Val Ile  
 35 40 45  
 Arg Ser Glu Gly Glu Ile Leu Gln Leu Ile Cys Tyr Leu Pro Tyr Gln  
 50 55 60  
 Leu His Glu Ser His Lys Ala Ser Thr Ala Arg Leu Leu His Leu Leu  
 65 70 75 80  
 Asn Arg Asp Ile Asp Ile Pro Gly Phe Gly Met Asp Glu Glu Gln Gly  
 85 90 95  
 Leu Ile Phe Tyr Arg Leu Val Leu Pro Cys Leu Asn Gly Glu Ile His  
 100 105 110  
 Asp Thr Leu Leu Arg Ile Tyr Ile Asp Thr Ile Lys Leu Val Cys Asp  
 115 120 125  
 Ser Phe Ser His Ala Ile Gly Leu Ile Ser Ser Gly Asn Met Asn Leu  
 130 135 140  
 Asp Glu Leu Arg Arg Gln Ala Leu Gln Glu Gln Gln Glu Lys Arg Asn  
 145 150 155 160  
 Glu

<210> 412  
 <211> 249  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 412  
 Asp Val Arg Leu Phe Lys Ser Asn Lys Lys Asn Val Met Ser Ser Gln  
 1 5 10 15  
 Thr Met Asp Val Leu Ile Phe Tyr Asp Thr Glu Thr Thr Gly Thr Gln  
 20 25 30  
 Ile Glu Arg Asp Arg Ile Ile Glu Ile Ala Ala Tyr Asn Ser Val Thr  
 35 40 45  
 Asp Glu Ser Phe Leu Thr Tyr Val Asn Pro Glu Ile Pro Ile Pro Asp  
 50 55 60  
 Glu Ala Ser Lys Ile His Gly Ile Thr Thr Asp Ala Val Leu Ser Ala  
 65 70 75 80  
 Pro Lys Phe Pro Glu Ala Tyr Glu Gly Phe Arg Lys Phe Cys Gly Glu  
 85 90 95  
 Asp Ser Ile Leu Val Ala His Asn Asn Asp Gly Phe Asp Phe Pro Leu  
 100 105 110  
 Leu Gly Lys Glu Cys Arg Arg His Ser Leu Glu Pro Leu Thr Asn Arg  
 115 120 125  
 Thr Ile Asp Ser Leu Lys Trp Ala Gln Lys Tyr Arg Pro Asp Leu Pro  
 130 135 140  
 Lys His Asn Leu Gln Tyr Leu Arg Gln Val Tyr Gly Phe Ala Glu Asn  
 145 150 155 160

Gln Ala His Arg Ala Leu Asp Asp Val Val Ile Leu His Lys Val Phe  
165 170 175  
Thr Ser Leu Ile Gly Asp Leu Pro Pro Gln Gln Val Leu Asp Leu Leu  
180 185 190  
Gln Gln Ser Tyr His Pro Lys Val Phe Lys Met Pro Phe Gly Lys Tyr  
195 200 205  
Lys Gly Gln Pro Leu Val Asp Ile Pro Lys Ser Tyr Phe Glu Trp Leu  
210 215 220  
Glu Asn Gln Gly Ala Leu Asp Lys Pro Glu Asn Lys Asp Ile Lys Ala  
225 230 235 240  
Ala Ile Ala Leu Leu His Gln Pro Thr  
245

<210> 413  
<211> 272  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 413  
Arg His Gln Ser Arg Tyr Ser Ser Ile Thr Ser Thr Asp Met Ile Leu  
1 5 10 15  
Thr Ala Ala Phe Ser Pro Cys Pro Asn Asp Ile Phe Leu Phe Arg Ser  
20 25 30  
Phe Leu Lys Asp Pro Gln Phe Arg Pro Leu Leu Asn Gln Val Thr Ile  
35 40 45  
Ala Asp Ile Glu Thr Leu Asn Thr Leu Ala Leu Gln Arg Arg Leu Ser  
50 55 60  
Leu Met Lys Met Ser Ala Ala Leu Phe Pro Leu Val Ser Asp Tyr Tyr  
65 70 75 80  
Asn Leu Met Asp Val Gly Asn Thr Leu Gly Tyr Asn Ser Gly Pro Ile  
85 90 95  
Val Leu Ser Leu Asp Pro Glu Cys Ser Leu Asp Thr Leu Ala Thr Pro  
100 105 110  
Gly Glu Met Thr Thr Ala His Ala Leu Cys Lys Leu Tyr Tyr Pro Lys  
115 120 125  
Ala Lys Leu Ile Pro Met Pro Tyr Asp Lys Ile Leu Ser Ala Ile Leu  
130 135 140  
Gln Gly Lys Val Asp Gly Gly Ala Leu Ile His Glu Glu Arg Phe Ser  
145 150 155 160  
Tyr Asp Leu Gln Leu Thr Leu Arg Ala Asp Phe Gly Glu Leu Trp Arg  
165 170 175  
Arg Lys Thr Ile Phe Pro Leu Pro Leu Gly Cys Leu Ala Ile Ala Lys  
180 185 190  
Tyr Val Pro Met Ala Thr Val Asp Ala Leu Thr Ala Ala Leu Arg Lys  
195 200 205  
Ser Leu Ile Cys Ser Leu Lys Asp Pro Ile Thr Ala Gly Ala Lys Ala  
210 215 220  
Val Glu Tyr Ser Lys Asn Lys Asn Val Thr Val Ile His Arg Phe Ile  
225 230 235 240  
Gly Thr Tyr Ile Asn Lys Glu Thr Phe Gln Leu Ser Lys Thr Gly Lys  
245 250 255  
Lys Ala Leu His Met Leu Trp Lys Ala Asn Glu Cys Cys Gln Tyr Thr  
260 265 270

<210> 414  
<211> 244  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 414

Glu	Pro	Ile	Ser	Thr	Lys	Lys	Pro	Phe	Asn	Tyr	Leu	Lys	Leu	Gly	Lys
1				5					10					15	
Lys	Leu	Tyr	Ile	Cys	Ser	Gly	Arg	Pro	Met	Asn	Ala	Val	Asn	Thr	Pro
			20					25					30		
Lys	Lys	Ile	Leu	Cys	Ile	Val	Ala	Asp	Tyr	Arg	Glu	Ile	Ser	Pro	Leu
		35					40					45			
Ile	Glu	Gln	Leu	Asp	Phe	Thr	Gln	Ile	Asn	Glu	His	Leu	Tyr	Ser	Tyr
	50					55					60				
Arg	Cys	Thr	Asp	Tyr	His	Leu	Asp	Leu	Tyr	Ile	Val	His	Val	Trp	Gly
65					70					75					80
Ser	Thr	Ala	Val	Leu	Asn	Ala	Leu	Gln	Ser	Tyr	Cys	Gln	Ala	Tyr	Thr
			85					90						95	
Asp	Tyr	Asp	Leu	Trp	Ile	Asn	Pro	Gly	Phe	Val	Gly	Ala	Cys	Ser	Pro
			100					105					110		
Glu	Ile	Pro	Leu	Gly	Gln	Cys	Tyr	Thr	Ile	Glu	Lys	Ile	Ala	Asn	Leu
		115					120					125			
Thr	Thr	Asp	Thr	Pro	Pro	Val	Leu	Ser	Glu	Asp	Pro	Pro	Tyr	Ile	Phe
	130					135					140				
Asp	Ala	Leu	Pro	Asp	Ser	Leu	Pro	Lys	Ser	Ser	Leu	Val	Thr	Ser	Pro
145					150					155					160
Val	Leu	Tyr	His	Tyr	Gly	Phe	His	Lys	Thr	Phe	Lys	Leu	Leu	Asp	Met
				165					170					175	
Glu	Gly	Tyr	Ala	Ile	Ala	Ser	Gln	Ala	Ala	Glu	His	His	Ile	Pro	Cys
			180					185					190		
Ser	Phe	Leu	Lys	Ile	Thr	Ser	Asp	Tyr	Thr	Val	Pro	Gly	Asp	Cys	Pro
		195					200					205			
Phe	Ser	Arg	Leu	Glu	Glu	Val	Ser	Gln	Lys	Leu	Thr	Gln	Thr	Leu	Val
	210					215					220				
Glu	Leu	Leu	Pro	Glu	Leu	Met	Glu	Arg	Ala	Ile	Pro	Pro	Lys	Leu	Leu
225					230					235					240
Leu	Pro	Cys	Pro												

<210> 415

<211> 661

<212> PRT

<213> Chlamydia pneumoniae

<400> 415

Val	Phe	Met	Lys	Leu	Leu	Lys	Ala	Val	Leu	Arg	His	Lys	Asn	His
1				5				10					15	
Leu	Val	Ile	Leu	Gly	Cys	Ser	Leu	Leu	Ala	Ile	Leu	Gly	Leu	Thr
			20					25					30	
Ser	Ser	Gln	Met	Glu	Ile	Phe	Ser	Leu	Gly	Met	Ile	Ala	Lys	Thr
		35					40					45		
Pro	Asp	Ala	Phe	Leu	Leu	Phe	Gly	Arg	Lys	Glu	Ser	Gly	Lys	Leu
	50					55					60			
Lys	Val	Ser	Glu	Leu	Ser	Gln	Lys	Asp	Ile	Leu	Glu	Asn	Trp	Gln
65					70					75				80
Ile	Ser	Lys	Asp	Ser	Glu	Thr	Leu	Thr	Val	Ser	Asp	Ala	Thr	Thr
			85					90					95	
Ile	Ala	Glu	His	Gly	Lys	Ser	Thr	Ala	Ser	Leu	Thr	Ser	Lys	Leu
			100					105					110	
Lys	Phe	Val	Arg	Asn	Tyr	Ile	Asp	Val	Ser	Arg	Phe	Arg	Gly	Leu
		115					120					125		
Ile	Phe	Leu	Ile	Cys	Val	Ala	Ile	Phe	Lys	Ala	Val	Thr	Leu	Phe
	130					135					140			
Gln	Arg	Phe	Leu	Gly	Gln	Val	Val	Ala	Ile	Arg	Val	Ser	Arg	Asp
145					150					155				160

Arg	Gln	Asp	Tyr	Phe	Lys	Ala	Leu	Gln	Gln	Leu	Pro	Met	Thr	Phe	Phe	
				165					170						175	
His	Asp	His	Asp	Ile	Gly	Asn	Leu	Ser	Asn	Arg	Val	Met	Thr	Asp	Ser	
			180						185					190		
Ala	Ser	Ile	Ala	Leu	Ala	Val	Asn	Ser	Leu	Met	Ile	Asn	Tyr	Ile	Gln	
		195					200					205				
Ala	Pro	Ile	Thr	Phe	Ile	Leu	Thr	Leu	Gly	Val	Cys	Leu	Ser	Ile	Ser	
	210					215					220					
Trp	Lys	Phe	Ser	Ile	Leu	Ile	Cys	Val	Ala	Phe	Pro	Ile	Phe	Ile	Leu	
225					230					235					240	
Pro	Ile	Val	Val	Ile	Ala	Arg	Lys	Ile	Lys	Asn	Leu	Ala	Lys	Arg	Ile	
			245						250						255	
Gln	Lys	Ser	Gln	Asp	Ser	Phe	Ser	Ser	Val	Leu	Tyr	Asp	Phe	Leu	Ala	
			260					265						270		
Gly	Val	Met	Thr	Val	Lys	Val	Phe	Arg	Thr	Glu	Lys	Phe	Ala	Phe	Thr	
		275					280					285				
Lys	Tyr	Cys	Glu	His	Asn	Asn	Lys	Ile	Ser	Ala	Leu	Glu	Glu	Lys	Ser	
	290					295					300					
Ala	Ala	Tyr	Gly	Leu	Leu	Pro	Arg	Pro	Leu	Leu	His	Thr	Ile	Ala	Ser	
305					310					315					320	
Leu	Phe	Phe	Ala	Phe	Val	Val	Val	Ile	Gly	Ile	Tyr	Lys	Phe	Ala	Ile	
			325						330					335		
Pro	Pro	Glu	Glu	Leu	Ile	Val	Phe	Cys	Gly	Leu	Leu	Tyr	Leu	Ile	Tyr	
			340					345					350			
Asp	Pro	Ile	Lys	Lys	Phe	Gly	Asp	Glu	Asn	Thr	Ser	Ile	Met	Arg	Gly	
		355					360						365			
Cys	Ala	Ala	Ala	Glu	Arg	Phe	Tyr	Glu	Val	Leu	Asn	His	Pro	Asp	Leu	
	370						375				380					
His	Ser	Gln	Lys	Glu	Arg	Glu	Ile	Glu	Phe	Leu	Gly	Leu	Ser	Asn	Thr	
385					390					395					400	
Ile	Thr	Phe	Glu	Asn	Val	Ser	Phe	Gly	Tyr	Gln	Glu	Asp	Lys	His	Ile	
			405						410					415		
Leu	Lys	Asn	Leu	Ser	Phe	Thr	Leu	His	Lys	Gly	Glu	Ala	Leu	Gly	Ile	
			420					425					430			
Val	Gly	Pro	Thr	Gly	Ser	Gly	Lys	Thr	Thr	Leu	Val	Lys	Leu	Leu	Pro	
		435					440						445			
Arg	Leu	Tyr	Glu	Val	Ser	Gln	Gly	Lys	Ile	Leu	Ile	Asp	Ser	Leu	Pro	
	450					455					460					
Ile	Thr	Glu	Tyr	Asn	Lys	Gly	Ser	Leu	Arg	Asn	His	Ile	Ala	Cys	Val	
465					470					475					480	
Leu	Gln	Asn	Pro	Phe	Leu	Phe	Tyr	Asp	Thr	Val	Trp	Asn	Asn	Leu	Thr	
			485						490					495		
Cys	Gly	Lys	Asp	Met	Glu	Glu	Glu	Ala	Val	Leu	Glu	Ala	Leu	Lys	Arg	
			500					505					510			
Ala	Tyr	Ala	Asp	Glu	Phe	Ile	Leu	Lys	Leu	Pro	Lys	Gly	Val	His	Ser	
		515					520					525				
Val	Leu	Glu	Glu	Ser	Gly	Lys	Asn	Leu	Ser	Gly	Gly	Gln	Gln	Gln	Arg	
	530					535						540				
Leu	Ala	Ile	Ala	Arg	Ala	Leu	Leu	Lys	Asn	Ala	Ser	Ile	Leu	Ile	Leu	
545					550					555					560	
Asp	Glu	Ala	Thr	Ser	Ala	Leu	Asp	Ala	Ile	Ser	Glu	Asn	Tyr	Ile	Lys	
			565						570					575		
Asn	Ile	Ile	Gly	Glu	Leu	Lys	Gly	Gln	Cys	Thr	Gln	Ile	Ile	Ile	Ala	
			580					585						590		
His	Lys	Leu	Thr	Thr	Leu	Glu	His	Val	Asp	Arg	Val	Leu	Tyr	Ile	Glu	
			595				600					605				
Asn	Gly	Gln	Lys	Ile	Ala	Glu	Gly	Thr	Lys	Glu	Glu	Leu	Leu	Gln	Thr	
	610					615					620					
Cys	Pro	Glu	Phe	Leu	Lys	Met	Trp	Glu	Leu	Ser	Gly	Thr	Lys	Glu	Tyr	
625					630					635					640	

Asn Arg Val Phe Val Pro Asp His Lys Leu Val Ala Asn Pro Thr Asp  
645 650 655  
Met Ala Ile Thr Thr  
660

<210> 416  
<211> 344  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 416  
Leu Cys Leu Arg Ile Val Cys Ile Lys Met Ile Leu Phe Ile Arg Gly  
1 5 10 15  
Glu His Ile Leu Met Glu Leu Leu Pro His Glu Lys Gln Val Val Glu  
20 25 30  
Tyr Glu Lys Ala Ile Ala Glu Phe Lys Glu Lys Asn Lys Lys Asn Ser  
35 40 45  
Leu Leu Ser Ser Ser Glu Ile Gln Lys Leu Glu Lys Arg Leu Asp Lys  
50 55 60  
Leu Lys Glu Lys Ile Tyr Ser Asp Leu Thr Pro Trp Glu Arg Val Gln  
65 70 75 80  
Ile Cys Arg His Pro Ser Arg Pro Arg Thr Val Asn Tyr Ile Glu Gly  
85 90 95  
Met Cys Glu Glu Phe Val Glu Leu Cys Gly Asp Arg Thr Phe Arg Asp  
100 105 110  
Asp Pro Ala Val Val Gly Gly Phe Val Lys Ile Gln Gly Gln Arg Phe  
115 120 125  
Val Leu Ile Gly Gln Glu Lys Gly Cys Asp Thr Ala Ser Arg Leu His  
130 135 140  
Arg Asn Phe Gly Met Leu Cys Pro Glu Gly Phe Arg Lys Ala Leu Arg  
145 150 155 160  
Leu Gly Lys Leu Ala Glu Lys Phe Gly Leu Pro Val Val Phe Leu Val  
165 170 175  
Asp Thr Pro Gly Ala Tyr Pro Gly Leu Thr Ala Glu Glu Arg Gly Gln  
180 185 190  
Gly Trp Ala Ile Ala Lys Asn Leu Phe Glu Leu Ser Arg Leu Ala Thr  
195 200 205  
Pro Val Ile Ile Val Val Ile Gly Glu Gly Cys Ser Gly Gly Ala Leu  
210 215 220  
Gly Met Ala Val Gly Asp Ser Val Ala Met Leu Glu His Ser Tyr Tyr  
225 230 235 240  
Ser Val Ile Ser Pro Glu Gly Cys Ala Ser Ile Leu Trp Lys Asp Pro  
245 250 255  
Lys Lys Asn Ser Glu Ala Ala Ser Met Leu Lys Met His Gly Glu Asn  
260 265 270  
Leu Lys Gln Phe Gly Ile Ile Asp Thr Val Ile Lys Glu Pro Ile Gly  
275 280 285  
Gly Ala His His Asp Pro Ala Leu Val Tyr Ser Asn Val Arg Glu Phe  
290 295 300  
Ile Ile Gln Glu Trp Leu Arg Leu Lys Asp Leu Ala Ile Glu Glu Leu  
305 310 315 320  
Leu Glu Lys Arg Tyr Glu Lys Phe Arg Ser Ile Gly Leu Tyr Glu Thr  
325 330 335  
Thr Ser Glu Ser Gly Pro Glu Ala  
340

<210> 417  
<211> 434  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 417

Ser Gln Thr Gly Phe Leu Pro Gly Leu Thr Leu Ile Phe Val Ile Ile  
1 5 10 15  
Ile Val Trp Cys Asn Ala Phe Leu Ile Lys Leu Cys Val Ile Met Gly  
20 25 30  
Leu Gln Ser Arg Leu Gln His Cys Ile Glu Val Ser Gln Asn Ser Asn  
35 40 45  
Phe Asp Ser Gln Val Lys Gln Phe Ile Tyr Ala Cys Gln Asp Lys Thr  
50 55 60  
Leu Arg Gln Ser Val Leu Lys Ile Phe Arg Tyr His Pro Leu Leu Lys  
65 70 75 80  
Ile His Asp Ile Ala Arg Ala Val Tyr Leu Leu Met Ala Leu Glu Glu  
85 90 95  
Gly Glu Asp Leu Gly Leu Ser Phe Leu Asn Val Gln Gln Tyr Pro Ser  
100 105 110  
Gly Ala Val Glu Leu Phe Ser Cys Gly Gly Phe Pro Trp Lys Gly Leu  
115 120 125  
Pro Tyr Pro Ala Glu His Ala Glu Phe Gly Leu Leu Leu Gln Ile  
130 135 140  
Ala Glu Phe Tyr Glu Glu Ser Gln Ala Tyr Val Ser Lys Met Ser His  
145 150 155 160  
Phe Gln Gln Ala Leu Phe Asp His Gln Gly Ser Val Phe Pro Ser Leu  
165 170 175  
Trp Ser Gln Glu Asn Ser Arg Leu Leu Lys Glu Lys Thr Thr Leu Ser  
180 185 190  
Gln Ser Phe Leu Phe Gln Leu Gly Met Gln Ile His Pro Glu Tyr Ser  
195 200 205  
Leu Glu Asp Pro Ala Leu Gly Phe Trp Met Gln Arg Thr Arg Ser Ser  
210 215 220  
Ser Ala Phe Val Ala Ala Ser Gly Cys Gln Ser Ser Leu Gly Ala Tyr  
225 230 235 240  
Ser Ser Gly Asp Val Gly Val Ile Ala Tyr Gly Pro Cys Ser Gly Asp  
245 250 255  
Ile Ser Asp Cys Tyr Tyr Phe Gly Cys Cys Gly Ile Ala Lys Glu Phe  
260 265 270  
Val Cys Gln Lys Ser His Gln Thr Thr Glu Ile Ser Phe Leu Thr Ser  
275 280 285  
Thr Gly Lys Pro His Pro Arg Asn Thr Gly Phe Ser Tyr Leu Arg Asp  
290 295 300  
Ser Tyr Val His Leu Pro Ile Arg Cys Lys Ile Thr Ile Ser Asp Lys  
305 310 315 320  
Gln Tyr Arg Val His Ala Ala Leu Ala Glu Ala Thr Ser Ala Met Thr  
325 330 335  
Phe Ser Ile Phe Cys Lys Gly Lys Asn Cys Gln Val Val Asp Gly Pro  
340 345 350  
Arg Leu Arg Ser Cys Ser Leu Asp Ser Tyr Lys Gly Pro Gly Asn Asp  
355 360 365  
Ile Met Ile Leu Gly Glu Asn Asp Ala Ile Asn Ile Val Ser Ala Ser  
370 375 380  
Pro Tyr Met Glu Ile Phe Ala Leu Gln Gly Lys Glu Lys Phe Trp Asn  
385 390 395 400  
Ala Asp Phe Leu Ile Asn Ile Pro Tyr Lys Glu Glu Gly Val Met Leu  
405 410 415  
Ile Phe Glu Lys Lys Val Thr Ser Glu Lys Gly Arg Phe Phe Thr Lys  
420 425 430  
Met Asn



<210> 418  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 418  
 Glu Ala Leu Ser Asn Met Ala Thr Met Thr Lys Lys Lys Leu Ile Ser  
 1 5 10 15  
 Thr Ile Ser Gln Asp His Lys Ile His Pro Asn His Val Arg Thr Val  
 20 25 30  
 Ile Gln Asn Phe Leu Asp Lys Met Thr Asp Ala Leu Val Lys Gly Asp  
 35 40 45  
 Arg Leu Glu Phe Arg Asp Phe Gly Val Leu Gln Val Val Glu Arg Lys  
 50 55 60  
 Pro Lys Val Gly Arg Asn Pro Lys Asn Ala Ala Val Pro Ile His Ile  
 65 70 75 80  
 Pro Ala Arg Arg Ala Val Lys Phe Thr Pro Gly Lys Arg Met Lys Arg  
 85 90 95  
 Leu Ile Glu Thr Pro Asn Lys His Ser  
 100 105

<210> 419  
 <211> 268  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 419  
 Arg Glu Lys Gly Met Lys Leu Thr Lys Tyr Leu Asn Thr Lys Gln Leu  
 1 5 10 15  
 Arg Ser Met Ile Ser Arg Leu Phe Val Arg Tyr Ser Leu Pro Met Ser  
 20 25 30  
 Lys Gln Leu Ser Phe Phe Ala Leu Cys Val Leu Gly Ser His Pro Ile  
 35 40 45  
 Phe Ala Gln Thr Pro Asn Pro Pro Gln Arg Val Arg Arg Ser Glu Val  
 50 55 60  
 Ile Phe Ile Asp Pro Gly His Gly Gly Lys Asp Gln Gly Thr Ala Ser  
 65 70 75 80  
 Lys Glu Leu His Tyr Glu Glu Lys Ser Leu Thr Leu Ser Leu Ala Leu  
 85 90 95  
 Thr Val Gln Ser Tyr Leu Lys Arg Met Gly Tyr Lys Pro Gln Leu Thr  
 100 105 110  
 Arg Ser Ser Asp Val Tyr Val Asp Leu Gly Lys Arg Val Ala Leu Ser  
 115 120 125  
 Asn Arg Gly Gln Gly Asp Val Phe Ile Ser Ile His Cys Asn His Ser  
 130 135 140  
 Ser Asn Ala Ala Ala Phe Gly Thr Glu Val Tyr Phe Tyr Asn Gly Lys  
 145 150 155 160  
 Val Gly Ser Pro Thr Arg Asn Arg Met Ser Glu Val Leu Gly Lys Asn  
 165 170 175  
 Ile Leu Ala Ala Met Glu Lys Asn Gly Ile Leu Lys Ser Arg Gly Leu  
 180 185 190  
 Lys Thr Ala Asn Phe Val Val Ile Arg Asp Thr Ser Met Pro Ala Val  
 195 200 205  
 Leu Val Glu Thr Gly Phe Leu Ser Asn Ser Arg Glu Arg Ala Ala Leu  
 210 215 220  
 Gln Asp Ala Arg Tyr Arg Met His Val Ala Lys Gly Ile Ala Glu Gly  
 225 230 235 240  
 Val His Asn Phe Leu Ser Gly Pro Ser Phe Gln Lys Pro Lys Gln Asn  
 245 250 255  
 Ile Ala Lys Ile Arg Lys Pro Gln Ile Gln Ala Asn  
 260 265

<210> 420  
 <211> 483  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 420  
 Met Asp Leu Lys Glu Leu Leu His Gly Val Gln Ala Lys Ile Tyr Gly  
 1 5 10 15  
 Lys Val Arg Pro Leu Glu Val Arg Asn Leu Thr Arg Asp Ser Arg Cys  
 20 25 30  
 Val Ser Val Gly Asp Ile Phe Ile Ala His Lys Gly Gln Arg Tyr Asp  
 35 40 45  
 Gly Asn Asp Phe Ala Val Asp Ala Leu Ala Asn Gly Ala Ile Ala Ile  
 50 55 60  
 Ala Ser Ser Leu Tyr Asn Pro Phe Leu Ser Val Val Gln Ile Ile Thr  
 65 70 75 80  
 Pro Asn Leu Glu Glu Leu Glu Ala Glu Leu Ser Ala Lys Tyr Tyr Glu  
 85 90 95  
 Tyr Pro Ser Ser Lys Leu His Thr Ile Gly Val Thr Gly Thr Asn Gly  
 100 105 110  
 Lys Thr Thr Val Thr Cys Leu Ile Lys Ala Leu Leu Asp Ser Tyr Gln  
 115 120 125  
 Lys Pro Ser Gly Leu Leu Gly Thr Ile Glu His Ile Leu Gly Glu Gly  
 130 135 140  
 Val Ile Lys Asp Gly Phe Thr Thr Pro Thr Pro Ala Leu Leu Gln Lys  
 145 150 155 160  
 Tyr Leu Ala Thr Met Val Arg Gln Asn Arg Asp Ala Val Val Met Glu  
 165 170 175  
 Val Ser Ser Ile Gly Leu Ala Ser Gly Arg Val Ala Tyr Thr Asn Phe  
 180 185 190  
 Asp Thr Ala Val Leu Thr Asn Ile Thr Leu Asp His Leu Asp Phe His  
 195 200 205  
 Gly Thr Phe Glu Thr Tyr Val Ala Ala Lys Ala Lys Leu Phe Ser Leu  
 210 215 220  
 Val Pro Pro Ser Gly Met Val Val Ile Asn Thr Asp Ser Pro Tyr Ala  
 225 230 235 240  
 Ser Gln Cys Ile Glu Ser Ala Lys Ala Pro Val Ile Thr Tyr Gly Ile  
 245 250 255  
 Glu Ser Ala Ala Asp Tyr Arg Ala Thr Asp Ile Gln Leu Ser Ser Ser  
 260 265 270  
 Gly Thr Lys Tyr Thr Leu Val Tyr Gly Asp Gln Lys Ile Ala Cys Ser  
 275 280 285  
 Ser Ser Phe Ile Gly Lys Tyr Asn Val Tyr Asn Leu Leu Ala Ala Ile  
 290 295 300  
 Ser Thr Val His Ala Ser Leu Arg Cys Asp Leu Glu Asp Leu Leu Glu  
 305 310 315 320  
 Lys Ile Gly Leu Cys Gln Pro Pro Pro Gly Arg Leu Asp Pro Val Leu  
 325 330 335  
 Met Gly Pro Cys Pro Val Tyr Ile Asp Tyr Ala His Thr Pro Asp Ala  
 340 345 350  
 Leu Asp Asn Val Leu Thr Gly Leu His Glu Leu Leu Pro Glu Gly Gly  
 355 360 365  
 Arg Leu Ile Val Val Phe Gly Cys Gly Gly Asp Arg Asp Arg Ser Lys  
 370 375 380  
 Arg Lys Leu Met Ala Gln Val Val Glu Arg Tyr Gly Phe Ala Val Val  
 385 390 395 400  
 Thr Ser Asp Asn Pro Arg Ser Glu Pro Pro Glu Asp Ile Val Asn Glu  
 405 410 415  
 Ile Cys Asp Gly Phe Tyr Ser Lys Asn Tyr Phe Ile Glu Ile Asp Arg  
 420 425 430

Lys Gln Ala Ile Thr Tyr Ala Leu Ser Ile Ala Ser Asp Arg Asp Ile  
           435                          440                          445  
 Val Leu Ile Ala Gly Lys Gly His Glu Ala Tyr Gln Ile Phe Lys His  
           450                          455                          460  
 Gln Thr Val Ala Phe Asp Asp Lys Gln Thr Val Cys Glu Val Leu Ala  
 465                          470                          475                          480  
 Ser Tyr Val

<210> 421

<211> 674

<212> PRT

<213> Chlamydia pneumoniae

<400> 421

Gln Leu Phe Pro Asn Thr Asn Ile Trp Asn Ile Pro Gln Lys Lys Val  
   1                          5                          10                          15  
 Ser Val Phe Tyr Pro Met Ser Tyr Arg Lys Arg Ser Thr Leu Ile Val  
           20                          25                          30  
 Leu Gly Val Phe Ala Leu Tyr Ala Leu Leu Val Leu Arg Tyr Tyr Lys  
           35                          40                          45  
 Ile Gln Ile Cys Glu Gly Asp His Trp Ala Ala Glu Ala Leu Gly Gln  
           50                          55                          60  
 His Glu Phe Cys Val Arg Asp Pro Phe Arg Arg Gly Thr Phe Phe Ala  
 65                          70                          75                          80  
 Asn Thr Thr Val Arg Lys Gly Asp Lys Asp Leu Gln Gln Pro Phe Ala  
                           85                          90                          95  
 Val Asp Ile Thr Lys Phe His Leu Cys Ala Asp Pro Leu Ala Ile Pro  
                           100                          105                          110  
 Glu Cys His Arg Asp Glu Ile Ile Gln Gly Ile Leu Gln Phe Ile Glu  
           115                          120                          125  
 Gly Gln Thr Tyr Asp Asp Leu Ser Leu Lys Leu Asp Lys Lys Ser Arg  
           130                          135                          140  
 Tyr Cys Lys Leu Tyr Pro Leu Leu Asp Val Ser Val His Asp Arg Leu  
 145                          150                          155                          160  
 Ser Leu Trp Trp Lys Gly Tyr Ala Thr Lys His Arg Leu Pro Thr Asn  
                           165                          170                          175  
 Ala Leu Phe Phe Ile Thr Asp Tyr Gln Arg Ser Tyr Pro Phe Gly Lys  
                           180                          185                          190  
 Leu Leu Gly Gln Val Leu His Thr Leu Arg Glu Ile Lys Asp Glu Lys  
           195                          200                          205  
 Thr Gly Lys Ala Phe Pro Thr Gly Gly Met Glu Ala Tyr Phe Asn His  
           210                          215                          220  
 Ile Leu Glu Gly Asp Val Gly Glu Arg Lys Leu Leu Arg Ser Pro Leu  
 225                          230                          235                          240  
 Asn Arg Leu Asp Thr Asn Arg Val Ile Lys Leu Pro Lys Asp Gly Ser  
                           245                          250                          255  
 Asp Ile Tyr Leu Thr Ile Asn Pro Val Ile Gln Thr Ile Ala Glu Glu  
                           260                          265                          270  
 Glu Leu Glu Arg Gly Val Leu Glu Ala Lys Ala Gln Gly Gly Arg Leu  
           275                          280                          285  
 Ile Leu Met Asn Ser Gln Thr Gly Glu Ile Leu Ala Leu Ala Gln Tyr  
           290                          295                          300  
 Pro Phe Phe Asp Pro Thr Asn Tyr Lys Glu Tyr Phe Asn Asn Lys Glu  
 305                          310                          315                          320  
 Arg Ile Glu His Thr Lys Val Ser Phe Val Ser Asp Val Phe Glu Pro  
                           325                          330                          335  
 Gly Ser Ile Met Lys Pro Leu Thr Val Ala Ile Ala Leu Gln Ala Asn  
                           340                          345                          350  
 Glu Glu Ala Ser Leu Lys Ser Gln Lys Lys Ile Phe Asp Pro Glu Glu  
           355                          360                          365

Pro Ile Asp Val Thr Arg Thr Leu Phe Pro Gly Arg Lys Gly Ser Pro  
 370 375 380  
 Leu Lys Asp Ile Ser Arg Asn Ser Gln Leu Asn Met Tyr Met Ala Ile  
 385 390 395 400  
 Gln Lys Ser Ser Asn Val Tyr Val Ala Gln Leu Ala Asp Arg Ile Ile  
 405 410 415  
 Gln Ser Leu Gly Val Ala Trp Tyr Gln Gln Lys Leu Leu Ala Leu Gly  
 420 425 430  
 Phe Gly Arg Lys Thr Gly Ile Glu Leu Pro Ser Glu Ala Ser Gly Leu  
 435 440 445  
 Val Pro Ser Pro His Arg Phe His Ile Asn Gly Ser Leu Glu Trp Ser  
 450 455 460  
 Leu Ser Thr Pro Tyr Ser Leu Ala Met Gly Tyr Asn Ile Leu Ala Thr  
 465 470 475 480  
 Gly Ile Gln Met Val Gln Ala Tyr Ala Ile Leu Ala Asn Gly Gly Tyr  
 485 490 495  
 Ala Val Arg Pro Thr Leu Val Lys Lys Ile Val Ser Ala Ser Gly Glu  
 500 505 510  
 Glu Tyr His Leu Pro Thr Lys Glu Lys Thr Arg Leu Phe Ser Glu Glu  
 515 520 525  
 Ile Thr Arg Glu Val Val Arg Ala Met Arg Phe Thr Thr Leu Pro Gly  
 530 535 540  
 Gly Ser Gly Phe Arg Ala Ser Pro Lys His His Ser Ser Ala Gly Lys  
 545 550 555 560  
 Thr Gly Thr Thr Glu Lys Met Ile His Gly Lys Tyr Asp Lys Arg Arg  
 565 570 575  
 His Ile Ala Ser Phe Ile Gly Phe Thr Pro Val Glu Ser Ser Glu Gly  
 580 585 590  
 Asn Phe Pro Pro Leu Val Met Leu Val Ser Ile Asp Asp Pro Glu Tyr  
 595 600 605  
 Gly Leu Arg Ala Asp Gly Thr Lys Asn Tyr Met Gly Gly Arg Cys Ala  
 610 615 620  
 Ala Pro Ile Phe Ser Arg Val Ala Asp Arg Thr Leu Leu Tyr Leu Gly  
 625 630 635 640  
 Ile Leu Pro Asp Lys Lys Leu Arg Asn Cys Asp Glu Glu Ala Ala Ala  
 645 650 655  
 Leu Lys Arg Leu Tyr Glu Glu Trp Asn Arg Ser Pro Lys Gln Gly Gly  
 660 665 670  
 Thr Arg

<210> 422

<211> 99

<212> PRT

<213> Chlamydia pneumoniae

<400> 422

Lys Ser Phe Pro Met Asn Lys Ser Arg Phe Leu Arg Leu Cys Cys Cys  
 1 5 10 15  
 Leu Cys Phe Cys Gly Ser Leu Phe Tyr Phe Tyr Ile Asn Lys Gln Asn  
 20 25 30  
 Ser Leu Thr Lys Leu Arg Leu Glu Ile Pro Cys Leu Ser Val Arg Leu  
 35 40 45  
 Arg Gln Leu Glu Gln Gln Asn Ile Ser Leu Arg Phe Leu Ile Asp Lys  
 50 55 60  
 Ile Glu Arg Pro Asp His Leu Met Glu Ile Ala Ala Leu Pro Glu Tyr  
 65 70 75 80  
 Gln Tyr Leu Glu Tyr Pro Ser Glu Glu Ser Ile Ser Leu Leu Ser Tyr  
 85 90 95  
 Glu Leu Pro

<210> 423  
 <211> 300  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 423  
 Glu Ile Leu Met Ser Glu Arg Ala His Ile Pro Val Leu Val Glu Glu  
 1 5 10 15  
 Cys Leu Ala Leu Phe Ala Gln Arg Pro Pro Gln Thr Phe Arg Asp Val  
 20 25 30  
 Thr Leu Gly Ala Gly Gly His Ala Tyr Ala Phe Leu Glu Ala Tyr Pro  
 35 40 45  
 Ser Leu Thr Cys Tyr Asp Gly Ser Asp Arg Asp Leu Gln Ala Leu Ala  
 50 55 60  
 Ile Ala Glu Lys Arg Leu Glu Thr Phe Gln Asp Arg Val Ser Phe Ser  
 65 70 75 80  
 His Ala Ser Phe Glu Asp Leu Ala Asn Gln Pro Thr Pro Arg Leu Tyr  
 85 90 95  
 Asp Gly Val Leu Ala Asp Leu Gly Val Ser Ser Met Gln Leu Asp Thr  
 100 105 110  
 Leu Ser Arg Gly Phe Ser Phe Gln Gly Glu Lys Glu Glu Leu Asp Met  
 115 120 125  
 Arg Met Asp Gln Thr Gln Glu Leu Ser Ala Ser Asp Val Leu Asn Ser  
 130 135 140  
 Leu Lys Glu Glu Glu Leu Gly Arg Ile Phe Arg Glu Tyr Gly Glu Glu  
 145 150 155 160  
 Pro Gln Trp Lys Ser Ala Ala Lys Ala Val Val His Phe Arg Lys His  
 165 170 175  
 Lys Lys Ile Leu Ser Ile Gln Asp Val Lys Glu Ala Leu Leu Gly Val  
 180 185 190  
 Phe Pro His Tyr Arg Phe His Arg Lys Ile His Pro Leu Thr Leu Ile  
 195 200 205  
 Phe Gln Ala Leu Arg Val Tyr Val Asn Gly Glu Asp Arg Gln Leu Lys  
 210 215 220  
 Ser Leu Leu Thr Ser Ala Ile Ser Trp Leu Ala Pro Gln Gly Arg Leu  
 225 230 235 240  
 Val Ile Ile Ser Phe Cys Ser Ser Glu Asp Arg Pro Val Lys Trp Phe  
 245 250 255  
 Phe Lys Glu Ala Glu Ala Ser Gly Leu Gly Lys Val Ile Thr Lys Lys  
 260 265 270  
 Val Ile Gln Pro Thr Tyr Gln Glu Val Arg Arg Asn Pro Arg Ser Arg  
 275 280 285  
 Ser Ala Lys Leu Arg Cys Phe Glu Lys Ala Ser Gln  
 290 295 300

<210> 424  
 <211> 184  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 424  
 Gly Leu Ala Met Val Glu Ile Phe Asn Tyr Ser Thr Ser Ile Tyr Glu  
 1 5 10 15  
 Gln His Ala Ser Asn Asn Arg Ile Val Ser Asp Phe Arg Lys Glu Ile  
 20 25 30  
 Gln Met Glu Gly Ile Ser Ile Arg Asp Val Ala Lys His Ala Gln Ile  
 35 40 45  
 Leu Asp Met Asn Pro Lys Pro Ser Ala Leu Thr Ser Leu Leu Gln Thr  
 50 55 60  
 Asn Gln Lys Ser His Trp Ala Cys Phe Ser Pro Pro Asn Asn Phe Tyr  
 65 70 75 80

Lys Gln Arg Phe Ser Thr Pro Tyr Leu Ala Pro Ser Leu Gly Ser Pro  
                             85                            90                            95  
 Asp Gln Gln Asp Glu Asp Ile Glu Lys Ile Ser Ser Phe Leu Lys Val  
                             100                            105                            110  
 Leu Thr Arg Gly Lys Phe Ser Tyr Arg Ser Gln Ile Thr Pro Phe Leu  
                             115                            120                            125  
 Ser Tyr Lys Asp Lys Glu Glu Glu Glu Asp Glu Asp Pro Glu Glu Asp  
                             130                            135                            140  
 Asp Asp Asp Pro Arg Val Gln Gln Gly Lys Val Leu Leu Lys Ala Leu  
                             145                            150                            155                            160  
 Asp Leu Gly Val Lys Ser Thr Asn Val Met Ile Asp Tyr Val Ile Ser  
                             165                            170                            175  
 Arg Ile Phe Gln Phe Val Gln Gly  
                             180

<210> 425

<211> 143

<212> PRT

<213> Chlamydia pneumoniae

<400> 425

Cys Met Leu Asp Asn Glu Trp Lys Ala Ile Leu Gly Trp Gly Asp Asp  
   1                            5                            10                            15  
 Glu Leu Glu Glu Leu Arg Ile Ser Gly Tyr Ser Phe Leu Arg Gln Gly  
                             20                            25                            30  
 His Tyr Ser Lys Ala Ile Leu Phe Glu Ala Leu Val Ile Leu Asp  
                             35                            40                            45  
 Pro Leu Ser Ile Tyr Asp His Gln Thr Leu Gly Gly Leu Tyr Leu Gln  
                             50                            55                            60  
 Ile Gly Glu Asn Ser Gln Ala Leu Ala Val Leu Asp Gln Ala Leu Arg  
  65                            70                            75                            80  
 Met Gln Gly Asp His Leu Pro Thr Leu Leu Asn Lys Thr Lys Ala Leu  
                             85                            90                            95  
 Phe Cys Leu Gly Arg Ile Glu Glu Ala Thr Ala Ile Ala Thr Tyr Leu  
                             100                            105                            110  
 Ser Ser Cys Pro Ile Pro Ala Ile Ala Asn Asp Ala Glu Ala Leu Leu  
                             115                            120                            125  
 Met Ser Tyr Ser Lys Ala Thr Lys Lys Asn Ala Ala Leu Val Arg  
                             130                            135                            140

<210> 426

<211> 479

<212> PRT

<213> Chlamydia pneumoniae

<400> 426

Ser Arg Cys Asn Glu Ile Phe Ser Pro Ser Leu Met Gly Trp Val Asp  
   1                            5                            10                            15  
 Cys Ile Trp Trp Glu Ser Phe Ile Asn Phe Glu Ser Gly Met Leu Thr  
                             20                            25                            30  
 Cys Asn Glu Cys Thr Thr Trp Glu Gln Phe Leu Asn Tyr Val Lys Thr  
                             35                            40                            45  
 Arg Cys Ser Lys Thr Ala Phe Glu Asn Trp Ile Ser Pro Ile Gln Val  
                             50                            55                            60  
 Leu Glu Glu Thr Gln Glu Lys Ile Arg Leu Glu Val Pro Asn Ile Phe  
  65                            70                            75                            80  
 Val Gln Asn Tyr Leu Leu Asp Asn Tyr Lys Arg Asp Leu Cys Ser Phe  
                             85                            90                            95  
 Val Pro Leu Asp Val His Gly Glu Pro Ala Leu Glu Phe Val Val Ala  
                             100                            105                            110

Glu	His	Lys	Lys	Pro	Ser	Ala	Pro	Val	Ala	Ser	Gln	Lys	Glu	Ser	Asn
		115					120					125			
Glu	Gly	Ile	Ser	Glu	Val	Phe	Glu	Glu	Thr	Lys	Asp	Phe	Glu	Leu	Lys
	130					135					140				
Leu	Asn	Leu	Ser	Tyr	Arg	Phe	Asp	Asn	Phe	Ile	Glu	Gly	Pro	Ser	Asn
	145				150					155					160
Gln	Phe	Val	Lys	Ser	Ala	Ala	Val	Gly	Ile	Ala	Gly	Lys	Pro	Gly	Arg
				165					170					175	
Ser	Tyr	Asn	Pro	Leu	Phe	Ile	His	Gly	Gly	Val	Gly	Leu	Gly	Lys	Thr
			180					185					190		
His	Leu	Leu	His	Ala	Val	Gly	His	Tyr	Val	Arg	Glu	His	His	Lys	Asn
		195					200					205			
Leu	Arg	Ile	His	Cys	Ile	Thr	Thr	Glu	Ala	Phe	Ile	Asn	Asp	Leu	Val
	210					215					220				
Tyr	His	Leu	Lys	Ser	Lys	Ser	Val	Asp	Lys	Met	Lys	Asn	Phe	Tyr	Arg
	225				230					235					240
Ser	Leu	Asp	Leu	Leu	Leu	Val	Asp	Asp	Ile	Gln	Phe	Leu	Gln	Asn	Arg
			245						250					255	
Gln	Asn	Phe	Glu	Glu	Glu	Phe	Cys	Asn	Thr	Phe	Glu	Thr	Leu	Ile	Asn
		260						265					270		
Leu	Ser	Lys	Gln	Ile	Val	Ile	Thr	Ser	Asp	Lys	Pro	Pro	Ser	Gln	Leu
		275					280					285			
Lys	Leu	Ser	Glu	Arg	Ile	Ile	Ala	Arg	Met	Glu	Trp	Gly	Leu	Val	Ala
	290					295					300				
His	Val	Gly	Ile	Pro	Asp	Leu	Glu	Thr	Arg	Val	Ala	Ile	Leu	Gln	His
	305				310					315					320
Lys	Ala	Glu	Gln	Lys	Gly	Leu	Leu	Ile	Pro	Asn	Glu	Met	Ala	Phe	Tyr
			325						330					335	
Ile	Ala	Asp	His	Ile	Tyr	Gly	Asn	Val	Arg	Gln	Leu	Glu	Gly	Ala	Ile
		340					345						350		
Asn	Lys	Leu	Thr	Ala	Tyr	Cys	Arg	Leu	Phe	Gly	Lys	Ser	Leu	Thr	Glu
		355				360						365			
Thr	Thr	Val	Arg	Glu	Thr	Leu	Lys	Glu	Leu	Phe	Arg	Ser	Pro	Thr	Lys
	370					375					380				
Gln	Lys	Ile	Ser	Val	Glu	Thr	Ile	Leu	Lys	Ser	Val	Ala	Thr	Val	Phe
	385				390					395					400
Gln	Val	Lys	Leu	Asn	Asp	Leu	Lys	Gly	Asn	Ser	Arg	Ser	Lys	Asp	Leu
			405						410					415	
Val	Leu	Ala	Arg	Gln	Ile	Ala	Met	Tyr	Leu	Ala	Lys	Thr	Leu	Ile	Thr
		420					425						430		
Asp	Ser	Leu	Val	Ala	Ile	Gly	Ala	Ala	Phe	Gly	Lys	Thr	His	Ser	Thr
		435				440						445			
Val	Leu	Tyr	Ala	Cys	Lys	Thr	Ile	Glu	His	Lys	Leu	Gln	Asn	Asp	Glu
	450					455					460				
Thr	Leu	Lys	Arg	Gln	Val	Asn	Leu	Cys	Lys	Asn	His	Ile	Val	Gly	
	465				470					475					

<210> 427

<211> 200

<212> PRT

<213> Chlamydia pneumoniae

<400> 427

Phe	Arg	Gly	Cys	Pro	Met	Phe	Arg	Arg	Thr	Gly	Lys	Gly	Pro	Phe	Glu
				5					10					15	
Asp	Val	Gln	Thr	Leu	Tyr	Glu	Glu	Glu	Thr	Ser	Ser	Pro	Ser	Ser	Tyr
			20					25					30		
Ser	Pro	Tyr	Ser	Arg	Ser	Glu	Arg	Pro	Glu	Thr	Pro	Pro	Ser	Leu	Phe
		35				40						45			
Asp	Asn	Pro	Lys	Ala	Ser	Glu	Ala	Arg	Pro	Leu	Asn	His	Asn	Leu	Thr
	50					55					60				

Glu	Glu	Ser	Ser	Leu	Pro	Gln	Trp	Ser	Ser	Thr	Pro	Arg	Thr	Glu	Ser
65					70					75					80
Leu	Leu	Pro	Leu	Glu	Pro	Glu	Thr	Thr	Leu	Gly	Glu	Gly	Val	Thr	
			85					90					95		
Phe	Lys	Gly	Glu	Leu	Ala	Phe	Glu	Arg	Leu	Leu	Arg	Ile	Asp	Gly	Thr
			100					105					110		
Phe	Glu	Gly	Ile	Leu	Val	Ser	Lys	Gly	Lys	Ile	Ile	Ile	Gly	Pro	Lys
		115					120					125			
Gly	Val	Val	Lys	Ala	Asp	Ile	Gln	Leu	Gln	Glu	Ala	Ile	Ile	Glu	Gly
	130					135					140				
Val	Val	Glu	Gly	Asn	Ile	Thr	Val	Ser	Gly	Lys	Val	Glu	Leu	Arg	Gly
145				150						155					160
Gly	Ala	Ile	Ile	Lys	Gly	Asp	Ile	Gln	Ala	Asn	Thr	Leu	Cys	Val	Asp
				165					170					175	
Glu	Gly	Val	Arg	Ile	Leu	Gly	Tyr	Leu	Ala	Ile	Ala	Gly	Ile	Thr	Asp
			180					185					190		
His	Ser	Glu	Arg	Glu	Arg	Asp	Leu								
		195					200								

<210> 428  
 <211> 192  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Val	Leu	Phe	Ser	Leu	Leu	Phe	Pro	Lys	Leu	Cys	Tyr	Gly	Cys	Gln
1				5					10					15	
Ala	Pro	Gly	Ala	Tyr	Phe	Cys	Ser	Asn	Cys	Leu	Glu	Lys	Leu	Leu	Val
			20					25					30		
Glu	Asp	Arg	Glu	Gly	Arg	Cys	Leu	His	Cys	Phe	Arg	Tyr	Leu	Gly	Ser
		35				40						45			
Ser	Glu	Thr	Arg	Leu	Cys	Ser	Gln	Cys	Ser	Pro	Ser	Ser	Gln	Leu	Gln
	50				55					60					
Ala	Phe	Ser	Leu	Tyr	Leu	Pro	Ser	Gln	Thr	Ala	Leu	Ser	Val	Tyr	Ala
65				70						75					80
Arg	Ala	Cys	Glu	Gly	Lys	Arg	Pro	Ala	Leu	Gln	Phe	Phe	Ser	Lys	Ser
			85						90					95	
Ile	Ala	Phe	Glu	Leu	Ala	Ser	Leu	Asp	Glu	Thr	Pro	Ser	Cys	Ile	Ala
			100					105					110		
Tyr	Ile	Thr	Ser	Thr	Ile	Ser	Arg	Lys	Ile	Val	Val	Glu	Val	Ala	Lys
		115					120					125			
Leu	Glu	Lys	Leu	Leu	Arg	Ile	Pro	Leu	Trp	Pro	Trp	Leu	Pro	Lys	Lys
	130					135					140				
Arg	Gln	Ile	Glu	Lys	Leu	Pro	Lys	Gly	Glu	Gly	Ile	Cys	Phe	Leu	Ser
145				150						155					160
Ala	Tyr	Pro	Leu	Ser	Gln	Lys	Trp	Met	Gln	Thr	Ile	Val	Gly	Gly	Ser
				165					170					175	
Ala	Ser	Pro	Leu	Val	Ser	Ile	Ser	Leu	Phe	Leu	Ser	Gln	Asn	Asp	Gln
			180					185						190	

<210> 429  
 <211> 521  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ala	Val	Cys	Tyr	Val	Phe	Glu	Arg	Val	Glu	Ala	Ser	Thr	Phe	Leu	Ser
1				5					10					15	
Ile	Thr	Met	Leu	Lys	Lys	Phe	Ile	Asn	Ser	Leu	Trp	Lys	Leu	Cys	Gln
			20					25					30		



Gln	Asp	Lys	Tyr	Gln	Arg	Phe	Thr	Pro	Ile	Val	Asp	Ala	Ile	Asp	Thr
		35					40					45			
Phe	Cys	Tyr	Glu	Pro	Ile	Glu	Thr	Pro	Ser	Lys	Pro	Pro	Phe	Ile	Arg
	50					55				60					
Asp	Ser	Val	Asp	Val	Lys	Arg	Trp	Met	Met	Leu	Val	Val	Ile	Ala	Leu
65					70					75					80
Phe	Pro	Ala	Thr	Phe	Val	Ala	Ile	Trp	Asn	Ser	Gly	Leu	Gln	Ser	Ile
				85					90					95	
Val	Tyr	Ser	Ser	Gly	Asn	Pro	Val	Leu	Met	Glu	Gln	Phe	Leu	His	Ile
			100					105					110		
Ser	Gly	Phe	Gly	Ser	Tyr	Leu	Ser	Phe	Val	Tyr	Lys	Glu	Ile	His	Ile
		115						120				125			
Val	Pro	Ile	Leu	Trp	Glu	Gly	Leu	Lys	Ile	Phe	Ile	Pro	Leu	Leu	Thr
	130					135					140				
Ile	Ser	Tyr	Val	Val	Gly	Gly	Thr	Cys	Glu	Val	Leu	Phe	Ala	Val	Val
145					150					155					160
Arg	Gly	His	Lys	Ile	Ala	Glu	Gly	Leu	Leu	Val	Thr	Gly	Ile	Leu	Tyr
				165					170						175
Pro	Leu	Thr	Leu	Pro	Pro	Thr	Ile	Pro	Tyr	Trp	Met	Ala	Ala	Leu	Gly
			180					185						190	
Ile	Ala	Phe	Gly	Ile	Val	Val	Ser	Lys	Glu	Leu	Phe	Gly	Gly	Thr	Gly
		195					200					205			
Met	Asn	Ile	Leu	Asn	Pro	Ala	Leu	Ser	Gly	Arg	Ala	Phe	Leu	Phe	Phe
	210					215					220				
Thr	Phe	Pro	Ala	Lys	Met	Ser	Gly	Asp	Val	Trp	Val	Gly	Ser	Asn	Pro
225					230					235					240
Gly	Val	Ile	Lys	Asp	Ser	Leu	Met	Lys	Met	Asn	Ser	Ser	Thr	Gly	Lys
			245						250					255	
Val	Leu	Ile	Asp	Gly	Phe	Ser	Gln	Ser	Thr	Cys	Leu	Gln	Thr	Leu	Asn
			260					265					270		
Ser	Thr	Pro	Pro	Ser	Val	Lys	Arg	Leu	His	Val	Asp	Ala	Ile	Ala	Ala
			275				280					285			
Asn	Met	Leu	His	Ile	Pro	His	Val	Pro	Thr	Gln	Asp	Val	Ile	His	Ser
	290					295					300				
Gln	Phe	Ser	Leu	Trp	Thr	Glu	Thr	His	Pro	Gly	Trp	Val	Leu	Asp	Asn
305					310					315					320
Leu	Thr	Leu	Thr	Gln	Leu	Gln	Thr	Phe	Val	Thr	Ala	Pro	Val	Ala	Glu
				325					330					335	
Gly	Gly	Leu	Gly	Leu	Leu	Pro	Thr	Gln	Phe	Asp	Ser	Ala	Tyr	Ala	Ile
			340					345					350		
Thr	Asp	Val	Ile	Tyr	Gly	Ile	Gly	Lys	Phe	Ser	Ala	Gly	Asn	Leu	Phe
		355					360					365			
Trp	Gly	Asn	Ile	Ile	Gly	Ser	Leu	Gly	Glu	Thr	Ser	Thr	Phe	Ala	Cys
	370					375					380				
Leu	Leu	Gly	Ala	Ile	Phe	Leu	Ile	Val	Thr	Gly	Ile	Ala	Ser	Trp	Arg
385					390					395					400
Thr	Met	Ala	Ala	Phe	Gly	Ile	Gly	Ala	Phe	Leu	Thr	Gly	Trp	Leu	Phe
				405					410					415	
Lys	Phe	Ile	Ser	Val	Leu	Ile	Val	Gly	Gln	Asn	Gly	Ala	Trp	Ala	Pro
			420					425					430		
Ala	Arg	Phe	Phe	Ile	Pro	Ala	Tyr	Arg	Gln	Leu	Phe	Leu	Gly	Gly	Leu
		435					440					445			
Ala	Phe	Gly	Leu	Val	Phe	Met	Ala	Thr	Asp	Pro	Val	Ser	Ser	Pro	Thr
	450					455				460					
Met	Lys	Leu	Gly	Lys	Trp	Ile	Tyr	Gly	Phe	Phe	Ile	Gly	Phe	Met	Thr
465					470					475					480
Ile	Val	Ile	Arg	Leu	Ile	Asn	Pro	Ala	Tyr	Pro	Glu	Gly	Val	Met	Leu
				485					490					495	
Ala	Ile	Leu	Leu	Gly	Asn	Val	Phe	Ala	Pro	Leu	Ile	Asp	Tyr	Phe	Ala
			500					505					510		

Val Arg Lys Tyr Arg Lys Arg Gly Val  
 515 520

<210> 430  
 <211> 321  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 430  
 Asn Met Ser Lys Gly Ser Ser Lys His Thr Val Arg Ile Asn Gln Thr  
 1 5 10 15  
 Trp Tyr Ile Val Ser Phe Ile Leu Gly Leu Ser Leu Phe Ala Gly Val  
 20 25 30  
 Leu Leu Ser Thr Ile Tyr Tyr Val Leu Ser Pro Ile Gln Glu Gln Ala  
 35 40 45  
 Ala Thr Phe Asp Arg Asn Lys Gln Met Leu Leu Ala Ala His Ile Leu  
 50 55 60  
 Asp Phe Lys Gly Arg Phe Gln Ile Gln Glu Lys Lys Glu Trp Val Pro  
 65 70 75 80  
 Ala Thr Phe Asp Lys Lys Thr Gln Leu Leu Glu Val Ala Thr Lys Lys  
 85 90 95  
 Val Ser Glu Val Ser Tyr Pro Glu Leu Glu Leu Tyr Ala Glu Arg Phe  
 100 105 110  
 Val Arg Pro Leu Leu Thr Asp Ala Gln Gly Lys Val Phe Ser Phe Glu  
 115 120 125  
 Glu Lys Asn Leu Asn Pro Ile Glu Phe Phe Glu Lys Tyr Gln Glu Ser  
 130 135 140  
 Pro Pro Cys Gln Gln Ser Pro Leu Pro Phe Tyr Val Ile Leu Glu Asn  
 145 150 155 160  
 Thr Ser Arg Thr Glu Asn Met Ser Gly Ala Asp Val Ala Lys Asp Leu  
 165 170 175  
 Ser Thr Val Gln Ala Leu Ile Phe Pro Ile Ser Gly Phe Gly Leu Trp  
 180 185 190  
 Gly Pro Ile His Gly Tyr Leu Gly Val Lys Asn Asp Gly Asp Thr Val  
 195 200 205  
 Leu Gly Thr Ala Trp Tyr Gln Gln Gly Glu Thr Pro Gly Leu Gly Ala  
 210 215 220  
 Asn Ile Thr Asn Pro Glu Trp Gln Glu Gln Phe Tyr Gly Lys Lys Ile  
 225 230 235 240  
 Phe Leu Gln Asp Ser Ser Gly Thr Thr Asn Phe Ala Thr Thr Asp Leu  
 245 250 255  
 Gly Leu Glu Val Val Lys Gly Ser Val Arg Thr Thr Leu Gly Asp Ser  
 260 265 270  
 Pro Lys Ala Leu Ser Ala Ile Asp Gly Ile Ser Gly Ala Thr Leu Thr  
 275 280 285  
 Cys Asn Gly Val Thr Glu Ala Tyr Val Gln Ser Leu Ala Cys Tyr Arg  
 290 295 300  
 Gln Leu Leu Ile Asn Phe Ser Asn Leu Thr His Glu Lys Lys Thr Gly  
 305 310 315 320  
 Glu

<210> 431  
 <211> 218  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 431  
 Lys Glu Asn Arg Arg Met Thr Ser Lys Lys Ser Tyr Lys Ser Tyr Phe  
 1 5 10 15

Phe Asp Pro Leu Trp Ser Asn Asn Gln Ile Leu Ile Ala Ile Leu Gly  
 20 25 30  
 Ile Cys Ser Ala Leu Ala Val Thr Thr Val Gln Thr Ala Ile Thr  
 35 40 45  
 Met Gly Ile Ala Val Ser Ile Val Thr Gly Cys Ser Ser Phe Phe Val  
 50 55 60  
 Ser Leu Leu Arg Lys Phe Thr Pro Asp Ser Val Arg Met Ile Thr Gln  
 65 70 75 80  
 Leu Ile Ile Ile Ser Leu Phe Val Ile Val Ile Asp Gln Phe Leu Lys  
 85 90 95  
 Ala Phe Phe Phe Asp Ile Ser Lys Thr Leu Ser Val Phe Val Gly Leu  
 100 105 110  
 Ile Ile Thr Asn Cys Ile Val Met Gly Arg Ser Glu Ser Leu Ala Arg  
 115 120 125  
 His Val Thr Pro Ile Pro Ala Phe Leu Asp Gly Phe Ala Ser Gly Leu  
 130 135 140  
 Gly Tyr Gly Trp Val Leu Leu Val Ile Gly Val Ile Arg Glu Leu Phe  
 145 150 155 160  
 Gly Phe Gly Thr Leu Met Gly Phe Arg Ile Ile Pro Gln Phe Val Tyr  
 165 170 175  
 Ala Ser Glu Thr His Pro Asp Gly Tyr Gln Asn Leu Ser Leu Met Val  
 180 185 190  
 Leu Ala Pro Ser Ala Phe Phe Leu Leu Gly Ile Met Ile Trp Leu Val  
 195 200 205  
 Asn Ile Arg Asp Ser Lys Lys Arg Lys Arg  
 210 215

<210> 432

<211> 257

<212> PRT

<213> Chlamydia pneumoniae

<400> 432

Phe Met Trp Leu Gly Ala Tyr Thr Trp Leu Asn Val Phe Gly Ile Leu  
 1 5 10 15  
 Leu Gln Ala Ala Phe Ile Gln Asn Ile Leu Leu Ala Asn Phe Leu Gly  
 20 25 30  
 Met Cys Ser Tyr Leu Ala Cys Ser Thr Arg Val Ser Thr Ala Asn Gly  
 35 40 45  
 Leu Gly Met Ser Val Ala Leu Val Leu Thr Val Thr Gly Ser Ile Asn  
 50 55 60  
 Trp Phe Val His Ala Phe Ile Thr Gly Pro Lys Ala Leu Thr Trp Ile  
 65 70 75 80  
 Ser Pro Ser Leu Ala Ser Val Asn Leu Gly Phe Leu Glu Leu Ile Ile  
 85 90 95  
 Phe Ile Val Val Ile Ala Ala Phe Thr Gln Ile Leu Glu Leu Leu Leu  
 100 105 110  
 Glu Lys Val Ser Arg Asn Leu Tyr Leu Ser Leu Gly Ile Phe Leu Pro  
 115 120 125  
 Leu Ile Ala Val Asn Cys Ala Ile Leu Gly Gly Val Leu Phe Gly Ile  
 130 135 140  
 Thr Arg Ser Tyr Pro Phe Ile Pro Met Met Ile Phe Ser Leu Gly Ala  
 145 150 155 160  
 Gly Cys Gly Trp Trp Leu Ala Ile Val Ile Leu Ala Thr Ile Lys Glu  
 165 170 175  
 Lys Leu Ala Tyr Ser Asp Ile Pro Lys Asn Leu Gln Gly Met Gly Ile  
 180 185 190  
 Ser Phe Ile Thr Thr Gly Leu Ile Ala Met Ala Phe Met Ser Leu Thr  
 195 200 205  
 Gly Ile Asp Ile Ser Lys Pro Ser Ala Lys Ile Gln Arg Ala Pro Leu  
 210 215 220

Glu Thr Glu Val Val Glu Asn Thr Thr Asn Pro Leu Lys Glu Ser Ser  
 225 230 235 240  
 Ser Lys His Gln Pro Ser Ile Ser Lys Ala Arg Thr Gln Arg Arg Ser  
 245 250 255  
 Leu

<210> 433  
 <211> 113  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 433  
 Lys Ile Met Thr Thr Leu Pro Lys Tyr Val Pro Arg Ser Arg Gln Asn  
 1 5 10 15  
 Pro Asp Thr Leu Thr Phe Leu Lys Arg Tyr Ser Ser Val Leu Leu His  
 20 25 30  
 Ser Glu Asn Ser Leu Ser Tyr Arg Ile Phe Ala Lys Val Leu Ala Ile  
 35 40 45  
 Leu Leu Thr Ser Leu Ala Val Ala Phe Ala Val Thr Leu Phe Ser Cys  
 50 55 60  
 Glu Gly Ser Gln Leu Arg Leu Cys Ala Leu Tyr Ile Gly Ile Ala Leu  
 65 70 75 80  
 Ala Ile Cys Val Leu Leu Thr Ile Val Val Tyr Cys Ile Ala Ser Lys  
 85 90 95  
 Ile Ala Thr Ala Cys Lys Lys Pro Pro Ser Ile Ser Arg Ile Glu Ile  
 100 105 110  
 Val

<210> 434  
 <211> 108  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 434  
 Lys Ile His Gln Asn Tyr Ser Met Asp Pro Ala Ser Pro Val Ala Pro  
 1 5 10 15  
 His Val Leu Gln Asp His Val Gln Leu Ser Ser Glu Glu Leu Ser Ala  
 20 25 30  
 Leu Ser Ser Gly Val Ser Arg Val Lys Lys Leu Thr Ile Ala Ile Met  
 35 40 45  
 Val Leu Ser Leu Ile Ala Ile Ser Leu Val Ala Cys Gly Leu Phe Leu  
 50 55 60  
 Thr Gly Ser Ala Pro Leu Gln Leu Ser Ile Trp Ile Ala Ala Ser Cys  
 65 70 75 80  
 Ile Thr Leu Ser Met Leu Val Cys Ala Cys Trp Arg Tyr Lys Ile Ser  
 85 90 95  
 Asn Ala Leu Glu Lys Thr Lys Val Ala His Glu Ser  
 100 105

<210> 435  
 <211> 133  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 435  
 Arg Thr Phe Arg Ile Leu Tyr Gly Thr Leu Tyr Arg Thr Gly Ser Arg  
 1 5 10 15  
 Lys Val Met Trp Tyr Ser Asp Tyr His Val Trp Ile Leu Pro Val His  
 20 25 30

Glu Arg Val Val Arg Leu Gly Leu Thr Glu Lys Met Gln Lys Asn Leu  
           35                  40                  45  
 Gly Ala Ile Leu His Val Asp Leu Pro Ser Val Gly Ser Leu Cys Lys  
           50                  55                  60  
 Glu Gly Glu Val Leu Val Ile Leu Glu Ser Ser Lys Ser Ala Ile Glu  
 65                  70                  75                  80  
 Val Leu Ser Pro Val Ser Gly Glu Val Ile Asp Ile Asn Leu Asp Leu  
                   85                  90                  95  
 Val Asp Asn Pro Gln Lys Ile Asn Glu Ala Pro Glu Gly Glu Gly Trp  
                   100                  105                  110  
 Leu Ala Val Val Arg Leu Asp Gln Asp Trp Asp Pro Ser Asn Leu Ser  
                   115                  120                  125  
 Leu Met Asp Glu Glu  
 130

<210> 436

<211> 732

<212> PRT

<213> Chlamydia pneumoniae

<400> 436

Arg Pro Trp Val Arg Ile Tyr Gln Gln Asp Leu Phe Cys Arg Leu Cys  
   1                  5                  10                  15  
 Arg Asp Pro Ala Trp Phe Phe Ser Leu Leu Ser Phe Thr Leu Arg Phe  
           20                  25                  30  
 Tyr Cys Leu Gly Arg Gly Trp Thr Leu Leu Ser Phe Phe Tyr Lys His  
           35                  40                  45  
 Gln Lys Lys Phe Ile Gly Ile Val Ile Ala Val Val Cys Val Ser Gly  
 50                  55                  60  
 Ile Gly Val Gly Trp Gly Arg Phe Ser Arg Lys Gly Ser Ala Glu Ser  
 65                  70                  75                  80  
 Thr Ser Arg Arg Thr Val Phe Thr Thr Ala Ser Gly Lys Arg Tyr Val  
                   85                  90                  95  
 Glu Lys Asp Phe Met Ala Met Lys Lys Phe Phe Ala His Glu Ala Tyr  
                   100                  105                  110  
 Pro Phe Thr Gly Asn Pro Arg Ala Trp Asn Phe Ile Asn Glu Gly Leu  
                   115                  120                  125  
 Leu Thr Asp Tyr Phe Leu Thr Thr Arg Val Gly Glu Lys Leu Phe Leu  
                   130                  135                  140  
 Lys Val Tyr His Pro Gly Glu Lys Ile Phe Ser Lys Glu Lys Ala Tyr  
 145                  150                  155                  160  
 Gln Pro Tyr Arg Arg Phe Asp Ala Pro Phe Ile Ser Ser Glu Glu Val  
                   165                  170                  175  
 Trp Lys Ser Ser Ala Pro Gln Leu Leu Glu Ile Leu Lys Val Phe Gln  
                   180                  185                  190  
 Gln Ile Glu Asn Pro Ile Ser Lys Glu Gly Phe Leu Ala Arg Ala Lys  
                   195                  200                  205  
 Leu Phe Leu Glu Glu Arg Arg Phe Pro His Tyr Val Leu Arg Gln Met  
                   210                  215                  220  
 Leu Glu Tyr Arg Arg Gln Met Phe Ala Leu Pro Pro Asp Glu Ala Leu  
 225                  230                  235                  240  
 Ser Arg Gly Lys Asp Leu Arg Leu Phe Gly Tyr Gln Thr Ile Gln Asp  
                   245                  250                  255  
 Trp Phe Gly Asp Ala Tyr Leu Ser Ala Ala Val Glu Leu Leu Ile Arg  
                   260                  265                  270  
 Phe Ile Asp Glu Gln Lys Lys Val Leu Pro Arg Pro Ser Lys Gln Glu  
                   275                  280                  285  
 Ala Arg Asp Asp Phe Tyr Asp Lys Ala Lys His Ala Tyr Thr Lys Ile  
                   290                  295                  300  
 Ser Lys Asn Lys Glu Phe Ser Leu Gly Phe Glu Glu Phe Val Asn Ser  
 305                  310                  315                  320

Tyr Phe Gln Phe Leu Glu Ile Ser Glu Ser Glu Phe Phe Asn Met Tyr  
 325 330 335  
 Arg Asp Ile Leu Leu Cys Lys Arg Ala Leu Leu Leu Leu Gln Gly Gly  
 340 345 350  
 Val Ser Phe Asp Phe Gln Pro Leu Thr Thr Phe Phe Val Gln Gly Lys  
 355 360 365  
 Asp Ser Ile Gln Val Glu Phe Phe Arg Leu Pro Lys Glu Tyr Ser Phe  
 370 375 380  
 Lys Thr Lys Gln Glu Leu Lys Ala Phe Glu Val Tyr Leu Lys Leu Val  
 385 390 395 400  
 Ser Leu Pro Lys Ser Asp Ser Leu Asp Val Pro Asn Glu Ile Leu Pro  
 405 410 415  
 Ile Ala Thr Ile Lys Ala Lys Glu Pro Arg Leu Val Gly Arg Arg Phe  
 420 425 430  
 Ser Ile Asp Tyr Lys Arg Val Ala Leu Gln Asp Leu Ala Ala Thr Val  
 435 440 445  
 Pro Met Val Glu Val Leu His Trp Gln Gln Asn Ser Glu His Phe Gln  
 450 455 460  
 Glu Ile Leu Gln Gln Phe Pro Asp Val Glu Thr Cys Gln Ser Tyr Lys  
 465 470 475 480  
 Asp Phe Gln His Leu Lys Pro Ala Leu Arg Asp Lys Ile Ser Leu Phe  
 485 490 495  
 Thr Arg Lys Glu Ile Leu Arg Ala Arg Pro Glu Arg Ile Leu Gln Ser  
 500 505 510  
 Leu Gln Gln Val Pro Lys Gln Ser Gln Glu Val Leu Leu Ser Ala Gly  
 515 520 525  
 Lys Asn Ser Ala Leu Pro Gly Ile Ser Asp Gly Gln Gln Leu Ala Lys  
 530 535 540  
 Val Leu Leu Glu Asn Glu Val Leu Asp Leu Tyr Ser Gln Asp Ala Glu  
 545 550 555 560  
 Thr Tyr Tyr Thr Ile Ile Val Asn Ser Ser Phe Glu Lys Glu Glu Val  
 565 570 575  
 Leu Pro Tyr Arg Glu Val Leu Lys Arg Asp Leu Ala Ser Gln Leu Leu  
 580 585 590  
 Thr Ser His Gly His Leu Val Asp Met Glu Arg Leu Glu Ser Ala Leu  
 595 600 605  
 Arg Thr Arg Tyr Pro Gly Glu Glu Gly Ala Ser Leu Trp Gln Arg Arg  
 610 615 620  
 Leu Trp Lys Val Val Glu Asn His Arg Leu Gly Arg His Leu Glu Gly  
 625 630 635 640  
 Ser Phe Ser Trp Ser Leu Asp Arg Ser Leu Lys Thr Phe Ser Arg Gly  
 645 650 655  
 Asp Lys Glu Leu Pro Gln Glu Phe Asp Arg Ile Phe Ser Met Lys Val  
 660 665 670  
 Gly Asp Tyr Ser Ser Val Phe Met Ser Pro Asn Glu Gly Pro Cys Tyr  
 675 680 685  
 Tyr Gln Cys Leu Ser His Leu Leu Tyr Asp Arg Pro Ala Ser Val Asp  
 690 695 700  
 Lys Leu Phe Leu Ala Lys Ser Gln Leu Asp Glu Glu Leu Leu Gly Ser  
 705 710 715 720  
 Tyr Met Glu Arg Phe Ile Glu Gln Gly Val Val Arg  
 725 730

<210> 437

<211> 478

<212> PRT

<213> Chlamydia pneumoniae

<400> 437

Gly Val Met Met Ser Arg Leu Arg Phe Arg Leu Ala Ala Leu Gly Ile  
 1 5 10 15

Phe	Phe	Ile	Leu	Leu	Val	Pro	Asn	Ser	Val	Ser	Ala	Lys	Thr	Ile	Val
			20					25					30		
Ala	Ser	Asp	Lys	Glu	Lys	Val	Gly	Val	Leu	Val	Tyr	Asp	Asn	Ser	Val
		35					40					45			
Glu	Ala	Phe	Gln	Gln	Ile	Leu	Asp	Cys	Ile	Asp	His	Ala	Asn	Phe	Tyr
	50					55					60				
Val	Glu	Leu	Cys	Pro	Cys	Met	Thr	Gly	Gly	Arg	Thr	Leu	Lys	Glu	Met
65					70					75				80	
Val	Asp	His	Leu	Glu	Ala	Arg	Met	Asp	Leu	Val	Pro	Glu	Leu	Cys	Ser
			85					90						95	
Tyr	Ile	Ile	Ile	Gln	Pro	Thr	Phe	Thr	Asp	Ala	Glu	Asp	Gln	Lys	Leu
			100					105					110		
Leu	Lys	Ala	Leu	Lys	Glu	Arg	His	Pro	Asn	Arg	Phe	Phe	Tyr	Val	Phe
		115					120					125			
Thr	Gly	Cys	Pro	Pro	Ser	Thr	Ser	Ile	Leu	Ala	Pro	Asn	Val	Ile	Glu
	130					135					140				
Met	His	Ile	Lys	Leu	Ser	Ile	Ile	Asp	Gly	Lys	Tyr	Cys	Ile	Leu	Gly
145					150					155					160
Gly	Thr	Asn	Phe	Glu	Glu	Phe	Met	Cys	Thr	Pro	Gly	Asp	Glu	Val	Pro
			165						170					175	
Glu	Lys	Val	Asp	Asn	Pro	Arg	Leu	Phe	Val	Ser	Gly	Val	Arg	Arg	Pro
			180					185					190		
Leu	Ala	Phe	Arg	Asp	Gln	Asp	Ile	Met	Leu	Arg	Ser	Thr	Ala	Phe	Gly
		195					200					205			
Leu	Gln	Leu	Arg	Glu	Glu	Tyr	His	Lys	Gln	Phe	Ala	Met	Trp	Asp	Tyr
	210					215					220				
Tyr	Ala	His	His	Met	Trp	Phe	Ile	Asp	Asn	Pro	Glu	Gln	Phe	Ala	Gly
225					230					235					240
Ala	Cys	Pro	Pro	Leu	Thr	Leu	Glu	Gln	Ala	Glu	Glu	Thr	Val	Phe	Pro
			245						250					255	
Gly	Phe	Asp	Lys	His	Glu	Asp	Leu	Val	Leu	Val	Asp	Ser	Ser	Lys	Ile
			260					265					270		
Arg	Ile	Val	Leu	Gly	Gly	Pro	His	Asp	Lys	Gln	Pro	Asn	Pro	Val	Thr
		275					280					285			
Gln	Glu	Tyr	Leu	Lys	Leu	Ile	Gln	Gly	Ala	Arg	Ser	Ser	Val	Lys	Leu
	290					295					300				
Ala	His	Met	Tyr	Phe	Ile	Pro	Lys	Asp	Glu	Leu	Leu	Asn	Ala	Leu	Val
305					310					315					320
Asp	Val	Ser	His	Asn	His	Gly	Val	His	Leu	Ser	Leu	Ile	Thr	Asn	Gly
			325						330					335	
Cys	His	Glu	Leu	Ser	Pro	Ala	Ile	Thr	Gly	Pro	Tyr	Ala	Trp	Gly	Asn
			340					345					350		
Arg	Ile	Asn	Tyr	Phe	Ala	Leu	Leu	Tyr	Gly	Lys	Arg	Tyr	Pro	Leu	Trp
		355					360					365			
Lys	Lys	Trp	Phe	Cys	Glu	Lys	Leu	Lys	Pro	Tyr	Glu	Arg	Val	Ser	Ile
	370					375					380				
Tyr	Glu	Phe	Ala	Ile	Trp	Glu	Thr	Gln	Leu	His	Lys	Lys	Cys	Met	Ile
385					390					395					400
Ile	Asp	Asp	Glu	Ile	Phe	Val	Ile	Gly	Ser	Tyr	Asn	Phe	Gly	Lys	Lys
			405						410					415	
Ser	Asp	Ala	Phe	Asp	Tyr	Glu	Ser	Ile	Val	Val	Ile	Glu	Ser	Pro	Glu
			420					425					430		
Val	Ala	Ala	Lys	Ala	Asn	Lys	Val	Phe	Asn	Lys	Asp	Ile	Gly	Leu	Ser
		435					440					445			
Ile	Pro	Val	Ser	His	Gly	Asp	Ile	Phe	Ser	Trp	Tyr	Phe	His	Ser	Val
	450					455					460				
His	His	Thr	Leu	Gly	His	Leu	Gln	Leu	Thr	Tyr	Met	Pro	Ala		
465					470					475					

<210> 438  
 <211> 244  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 438  
 Phe Tyr Val Cys Tyr Met Lys Val Arg Ile Val Asp Ser Gly Lys Ser  
 1 5 10 15  
 Ser Ala Ala Ser His Met Ala Lys Asp Arg Asp Leu Leu Glu Ser Leu  
 20 25 30  
 Gln Asp Gly Glu Leu Ile Leu His Leu Tyr Glu Trp Glu Asn Pro Cys  
 35 40 45  
 Ser Leu Thr Tyr Gly His Phe Met Arg Pro Glu Lys Phe Leu Leu Ser  
 50 55 60  
 Asn Tyr Ala Asp Leu Gly Leu Asp Ala Ala Val Arg Pro Thr Gly Gly  
 65 70 75 80  
 Gly Phe Val Phe His Lys Gly Asp Tyr Ala Phe Ser Val Leu Met Ser  
 85 90 95  
 Ala Thr His Pro Ser Tyr Ser Ser Ser Val Leu Glu Asn Tyr His Thr  
 100 105 110  
 Val Asn Ser Phe Val Ala Lys Val Leu Glu Lys Val Phe Arg Ile Gln  
 115 120 125  
 Gly Met Leu Ala Pro Glu Asp Glu Asn Ser Ser Ser Arg Asp Ser Gly  
 130 135 140  
 Asn Phe Cys Met Ala Lys Thr Ser Lys Tyr Asp Val Leu Phe Gly Asp  
 145 150 155 160  
 Lys Lys Ile Gly Gly Ala Ala Gln Arg Lys Val Gln Gln Gly Phe Leu  
 165 170 175  
 His Gln Gly Ser Leu Phe Leu Ser Gly Ser Ser Ser Glu Phe Tyr Gln  
 180 185 190  
 Arg Phe Leu Lys Pro Glu Val Leu Glu Glu Ile Ile Glu Gln Ile Gln  
 195 200 205  
 Ile His Ala Phe Phe Pro Leu Gly Leu Glu Ala Ala Asp Glu Val Leu  
 210 215 220  
 Gln Glu Ala Arg Gln Gln Val Lys Glu Ala Phe Ile Lys Leu Phe Cys  
 225 230 235 240  
 Gly Glu Gly Leu

<210> 439  
 <211> 847  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 439  
 Val Phe Met Phe Glu Lys Phe Thr Asn Arg Ala Lys Gln Val Ile Lys  
 1 5 10 15  
 Leu Ala Lys Lys Glu Ala Gln Arg Leu Asn His Asn Tyr Leu Gly Thr  
 20 25 30  
 Glu His Ile Leu Leu Gly Leu Leu Lys Leu Gly Gln Gly Val Ala Val  
 35 40 45  
 Asn Val Leu Arg Asn Leu Gly Ile Asp Phe Asp Thr Ala Arg Gln Glu  
 50 55 60  
 Val Glu Arg Leu Ile Gly Tyr Gly Pro Glu Ile Gln Val Tyr Gly Asp  
 65 70 75 80  
 Pro Ala Leu Thr Gly Arg Val Lys Lys Ser Phe Glu Ser Ala Asn Glu  
 85 90 95  
 Glu Ala Ser Leu Leu Glu His Asn Tyr Val Gly Thr Glu His Leu Leu  
 100 105 110  
 Leu Gly Ile Leu His Gln Ser Asp Ser Val Ala Leu Gln Val Leu Glu  
 115 120 125



Asn	Leu	His	Ile	Asp	Pro	Arg	Glu	Val	Arg	Lys	Glu	Ile	Leu	Arg	Glu
130						135					140				
Leu	Glu	Thr	Phe	Asn	Leu	Gln	Leu	Pro	Pro	Ser	Ser	Ser	Ser	Ser	Ser
145					150					155					160
Ser	Ser	Ser	Arg	Ser	Asn	Pro	Ser	Ser	Ser	Lys	Ser	Pro	Leu	Gly	His
				165					170					175	
Ser	Leu	Gly	Ser	Asp	Lys	Asn	Glu	Lys	Leu	Ser	Ala	Leu	Lys	Ala	Tyr
			180					185				190			
Gly	Tyr	Asp	Leu	Thr	Glu	Met	Val	Arg	Glu	Ser	Lys	Leu	Asp	Pro	Val
195						200					205				
Ile	Gly	Arg	Ser	Ser	Glu	Val	Glu	Arg	Leu	Ile	Leu	Ile	Leu	Cys	Arg
210						215					220				
Arg	Arg	Lys	Asn	Asn	Pro	Val	Leu	Ile	Gly	Glu	Ala	Gly	Val	Gly	Lys
225					230					235					240
Thr	Ala	Ile	Val	Glu	Gly	Leu	Ala	Gln	Lys	Ile	Ile	Leu	Asn	Glu	Val
				245					250					255	
Pro	Asp	Ala	Leu	Arg	Lys	Lys	Arg	Leu	Ile	Thr	Leu	Asp	Leu	Ala	Leu
			260					265					270		
Met	Ile	Ala	Gly	Thr	Lys	Tyr	Arg	Gly	Gln	Phe	Glu	Glu	Arg	Ile	Lys
		275				280					285				
Ala	Val	Met	Asp	Glu	Val	Arg	Lys	His	Gly	Asn	Ile	Leu	Leu	Phe	Ile
290					295					300					
Asp	Glu	Leu	His	Thr	Ile	Val	Gly	Ala	Gly	Ala	Ala	Glu	Gly	Ala	Ile
305					310					315					320
Asp	Ala	Ser	Asn	Ile	Leu	Lys	Pro	Ala	Leu	Ala	Arg	Gly	Glu	Ile	Gln
			325					330						335	
Cys	Ile	Gly	Ala	Thr	Thr	Ile	Asp	Glu	Tyr	Arg	Lys	His	Ile	Glu	Lys
			340					345				350			
Asp	Ala	Ala	Leu	Glu	Arg	Arg	Phe	Gln	Lys	Ile	Val	Val	His	Pro	Pro
		355					360				365				
Ser	Val	Asp	Glu	Thr	Ile	Glu	Ile	Leu	Arg	Gly	Leu	Lys	Lys	Lys	Tyr
370						375					380				
Glu	Glu	His	His	Asn	Val	Phe	Ile	Thr	Glu	Glu	Ala	Leu	Lys	Ala	Ala
385					390					395					400
Ala	Thr	Leu	Ser	Asp	Gln	Tyr	Val	His	Gly	Arg	Phe	Leu	Pro	Asp	Lys
			405					410						415	
Ala	Ile	Asp	Leu	Leu	Asp	Glu	Ala	Gly	Ala	Arg	Val	Arg	Val	Asn	Thr
			420					425					430		
Met	Gly	Gln	Pro	Thr	Asp	Leu	Met	Lys	Leu	Glu	Ala	Glu	Ile	Glu	Asn
		435				440					445				
Thr	Lys	Leu	Ala	Lys	Glu	Gln	Ala	Ile	Gly	Thr	Gln	Glu	Tyr	Glu	Lys
450						455					460				
Ala	Ala	Gly	Leu	Arg	Asp	Glu	Glu	Lys	Lys	Leu	Arg	Glu	Arg	Leu	Gln
465					470					475					480
Ser	Met	Lys	Gln	Glu	Trp	Glu	Asn	His	Lys	Glu	Glu	His	Gln	Val	Pro
			485					490						495	
Val	Asp	Glu	Glu	Ala	Val	Ala	Gln	Val	Val	Ser	Leu	Gln	Thr	Gly	Ile
			500					505					510		
Pro	Ser	Ala	Arg	Leu	Thr	Glu	Ala	Glu	Ser	Glu	Lys	Leu	Leu	Lys	Leu
		515					520					525			
Glu	Asp	Thr	Leu	Arg	Arg	Lys	Val	Ile	Gly	Gln	Asn	Asp	Ala	Val	Thr
		530				535					540				
Ser	Ile	Cys	Arg	Ala	Ile	Arg	Arg	Ser	Arg	Thr	Gly	Ile	Lys	Asp	Pro
545					550					555					560
Asn	Arg	Pro	Thr	Gly	Ser	Phe	Leu	Phe	Leu	Gly	Pro	Thr	Gly	Val	Gly
			565					570						575	
Lys	Ser	Leu	Leu	Ala	Gln	Gln	Ile	Ala	Ile	Glu	Met	Phe	Gly	Gly	Glu
			580					585					590		
Asp	Ala	Leu	Ile	Gln	Val	Asp	Met	Ser	Glu	Tyr	Met	Glu	Lys	Phe	Ala
		595					600					605			

Ala	Thr	Lys	Met	Met	Gly	Ser	Pro	Pro	Gly	Tyr	Val	Gly	His	Glu	Glu
610						615					620				
Gly	Gly	His	Leu	Thr	Glu	Gln	Val	Arg	Arg	Arg	Pro	Tyr	Cys	Val	Val
625					630					635					640
Leu	Phe	Asp	Glu	Ile	Glu	Lys	Ala	His	Pro	Asp	Ile	Met	Asp	Leu	Met
				645					650					655	
Leu	Gln	Ile	Leu	Glu	Gln	Gly	Arg	Leu	Thr	Asp	Ser	Phe	Gly	Arg	Lys
			660					665					670		
Val	Asp	Phe	Arg	His	Ala	Ile	Ile	Ile	Met	Thr	Ser	Asn	Leu	Gly	Ala
		675				680						685			
Asp	Leu	Ile	Arg	Lys	Ser	Gly	Glu	Ile	Gly	Phe	Gly	Leu	Lys	Ser	His
690					695						700				
Met	Asp	Tyr	Lys	Val	Ile	Gln	Glu	Lys	Ile	Glu	His	Ala	Met	Lys	Lys
705					710					715					720
His	Leu	Lys	Pro	Glu	Phe	Ile	Asn	Arg	Leu	Asp	Glu	Ser	Val	Ile	Phe
				725					730					735	
Arg	Pro	Leu	Glu	Lys	Glu	Ser	Leu	Ser	Glu	Ile	Ile	His	Leu	Glu	Ile
			740					745					750		
Asn	Lys	Leu	Asp	Ser	Arg	Leu	Lys	Asn	Tyr	Gln	Met	Ala	Leu	Asn	Ile
		755					760					765			
Pro	Asp	Ser	Val	Ile	Ser	Phe	Leu	Val	Thr	Lys	Gly	His	Ser	Pro	Glu
		770				775					780				
Met	Gly	Ala	Arg	Pro	Leu	Arg	Arg	Val	Ile	Glu	Gln	Tyr	Leu	Glu	Asp
785					790					795					800
Pro	Leu	Ala	Glu	Leu	Leu	Leu	Lys	Glu	Ser	Cys	Arg	Gln	Glu	Ala	Arg
				805					810					815	
Lys	Leu	Arg	Ala	Thr	Leu	Val	Glu	Asn	Arg	Val	Ala	Phe	Glu	Arg	Glu
			820					825					830		
Glu	Glu	Glu	Gln	Glu	Ala	Ala	Leu	Pro	Ser	Pro	His	Leu	Glu	Ser	
		835					840					845			

<210> 440

<211> 374

<212> PRT

<213> Chlamydia pneumoniae

<400> 440

Asn	Leu	Thr	Leu	Pro	Met	Arg	Arg	Gln	Val	Arg	Glu	Ile	Met	Gln	Gln
1				5					10					15	
Thr	Val	Ile	Val	Ala	Met	Ser	Gly	Gly	Val	Asp	Ser	Ser	Val	Val	Ala
			20					25					30		
Tyr	Leu	Phe	Lys	Lys	Phe	Thr	Asn	Tyr	Lys	Val	Ile	Gly	Leu	Phe	Met
		35					40					45			
Lys	Asn	Trp	Glu	Glu	Asp	Ser	Glu	Gly	Gly	Leu	Cys	Ser	Ser	Thr	Lys
		50				55					60				
Asp	Tyr	Glu	Asp	Val	Glu	Arg	Val	Cys	Leu	Gln	Leu	Asp	Ile	Pro	Tyr
65					70					75					80
Tyr	Thr	Val	Ser	Phe	Ala	Lys	Glu	Tyr	Arg	Glu	Arg	Val	Phe	Ala	Arg
				85					90					95	
Phe	Leu	Lys	Glu	Tyr	Ser	Leu	Gly	Tyr	Thr	Pro	Asn	Pro	Asp	Ile	Leu
			100					105					110		
Cys	Asn	Arg	Glu	Ile	Lys	Phe	Asp	Leu	Leu	Gln	Lys	Lys	Val	Gln	Glu
			115				120					125			
Leu	Gly	Gly	Asp	Tyr	Leu	Ala	Thr	Gly	His	Tyr	Cys	Arg	Leu	Asn	Thr
			130				135				140				
Glu	Leu	Gln	Glu	Thr	Gln	Leu	Leu	Arg	Gly	Cys	Asp	Pro	Gln	Lys	Asp
145					150					155					160
Gln	Ser	Tyr	Phe	Leu	Ser	Gly	Thr	Pro	Lys	Ser	Ala	Leu	His	Asn	Val
				165					170					175	
Leu	Phe	Pro	Leu	Gly	Glu	Met	Asn	Lys	Thr	Glu	Val	Arg	Ala	Ile	Ala
			180					185					190		

Ala Gln Ala Ala Leu Pro Thr Ala Glu Lys Lys Asp Ser Thr Gly Ile  
           195                          200                          205  
 Cys Phe Ile Gly Lys Arg Pro Phe Lys Glu Phe Leu Glu Lys Phe Leu  
           210                          215                          220  
 Pro Asn Lys Thr Gly Asn Val Ile Asp Trp Asp Thr Lys Glu Ile Val  
           225                          230                          235                          240  
 Gly Gln His Gln Gly Ala His Tyr Tyr Thr Ile Gly Gln Arg Arg Gly  
                           245                          250                          255  
 Leu Asp Leu Gly Gly Ser Glu Lys Pro Cys Tyr Val Val Gly Lys Asn  
                           260                          265                          270  
 Ile Glu Glu Asn Ser Ile Tyr Ile Val Arg Gly Glu Asp His Pro Gln  
                           275                          280                          285  
 Leu Tyr Leu Arg Glu Leu Thr Ala Arg Glu Leu Asn Trp Phe Thr Pro  
           290                          295                          300  
 Pro Lys Ser Gly Cys His Cys Ser Ala Lys Val Arg Tyr Arg Ser Pro  
           305                          310                          315                          320  
 Asp Glu Ala Cys Thr Ile Asp Tyr Ser Ser Gly Asp Glu Val Lys Val  
                           325                          330                          335  
 Arg Phe Ser Gln Pro Val Lys Ala Val Thr Pro Gly Gln Thr Ile Ala  
                           340                          345                          350  
 Phe Tyr Gln Gly Asp Thr Cys Leu Gly Ser Gly Val Ile Asp Val Pro  
                           355                          360                          365  
 Met Ile Pro Ser Glu Gly  
           370

<210> 441  
 <211> 185  
 <212> PRT  
 <213> Chlamydia pneumoniae

          <400> 441  
 Ile Ile Ser Ser Asn Asn Arg Val Leu Phe Val Ser Ser Thr Leu Asn  
           1                          5                          10                          15  
 Gly Val Phe Pro Ser Ser Leu Pro Glu Glu Ser Ala Asp Leu Phe Ile  
                           20                          25                          30  
 Thr Asn Lys Glu Ile Val Ala Leu Gly Glu Lys Gly Asn Val Phe Leu  
           35                          40                          45  
 Thr His Ser Ile Pro Met His Ile Ala Ala Ile Thr Ile Leu Val Ile  
           50                          55                          60  
 Val Ala Leu Ala Gly Ile Ala Ile Ile Cys Leu Gly Cys Tyr Ser Gln  
           65                          70                          75                          80  
 Ser Ile Leu Leu Ile Ala Val Gly Ile Val Leu Thr Ile Leu Thr Leu  
                           85                          90                          95  
 Leu Cys Leu Gln Ala Leu Val Gly Phe Ile Lys Phe Ile Arg Gln Leu  
                           100                          105                          110  
 Pro Gln Gln Leu His Thr Thr Val Gln Phe Ile Arg Glu Lys Ile Arg  
                           115                          120                          125  
 Pro Glu Ser Ser Leu Gln Leu Val Thr Asn Ala Gln Arg Lys Thr Thr  
           130                          135                          140  
 Gln Asp Thr Leu Lys Leu Tyr Glu Glu Leu Cys Asp Leu Ser Gln Lys  
           145                          150                          155                          160  
 Glu Phe Lys Leu Gln Ser Thr Leu Tyr Gln Lys Arg Phe Glu Leu Ser  
                           165                          170                          175  
 His Lys Asn Glu Lys Thr Asn Gln Asn  
                           180                          185

<210> 442  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 442

Leu	Ala	Thr	Ile	Arg	Gly	Asn	Asn	Met	Ala	Thr	Ser	Val	Ala	Pro	Ser
1				5					10					15	
Pro	Val	Pro	Glu	Ser	Ser	Pro	Leu	Ser	His	Ala	Thr	Glu	Val	Leu	Asn
			20					25					30		
Leu	Pro	Asn	Ala	Tyr	Ile	Thr	Gln	Pro	His	Pro	Ile	Pro	Ala	Ala	Pro
		35					40					45			
Trp	Glu	Thr	Phe	Arg	Ser	Lys	Leu	Ser	Thr	Lys	His	Thr	Leu	Cys	Phe
	50					55					60				
Ala	Leu	Thr	Leu	Leu	Leu	Thr	Leu	Gly	Gly	Thr	Ile	Ser	Ala	Gly	Tyr
65					70					75					80
Ala	Gly	Tyr	Thr	Gly	Asn	Trp	Ile	Ile	Cys	Gly	Ile	Gly	Leu	Gly	Ile
			85						90					95	
Ile	Val	Leu	Thr	Leu	Ile	Leu	Ala	Leu	Leu	Leu	Ala	Ile	Pro	Leu	Lys
			100					105					110		
Asn	Lys	Gln	Thr	Gly	Thr	Lys	Leu	Ile	Asp	Glu	Ile	Ser	Gln	Asp	Ile
		115					120					125			
Ser	Ser	Ile	Gly	Ser	Gly	Phe	Val	Gln	Arg	Tyr	Gly	Leu	Met	Phe	Ser
	130					135					140				
Thr	Ile	Lys	Ser	Val	His	Leu	Pro	Glu	Leu	Thr	Thr	Gln	Asn	Gln	Glu
145					150					155					160
Lys	Thr	Arg	Ile	Leu	Asn	Glu	Ile	Glu	Ala	Lys	Lys	Glu	Ser	Ile	Gln
			165					170						175	
Asn	Leu	Glu	Leu	Lys	Ile	Thr	Glu	Cys	Gln	Asn	Lys	Leu	Ala	Gln	Lys
		180					185						190		
Gln	Pro	Lys	Arg	Lys	Ser	Ser	Gln	Lys	Ser	Phe	Met	Arg	Ser	Ile	Lys
		195					200					205			
His	Leu	Ser	Lys	Asn	Pro	Val	Ile	Leu	Phe	Asp	Cys				
	210					215					220				

<210> 443

<211> 323

<212> PRT

<213> Chlamydia pneumoniae

<400> 443

Arg	Trp	Arg	Ile	Leu	Gln	Asn	Met	Phe	Lys	Leu	Leu	Phe	His	Ile	Ala
1				5					10					15	
Ala	Phe	Ala	Gly	His	Val	Leu	Ser	Thr	Pro	Ile	Phe	Ile	Val	Gln	Asp
			20					25					30		
Ala	Cys	Gly	Ile	Asp	Glu	Glu	Ala	Cys	Lys	Asn	Pro	Pro	Pro	Arg	Pro
		35					40					45			
Phe	Ser	Ala	Gln	Val	Gln	Tyr	Leu	Lys	Val	Asn	Asp	Ala	Lys	Phe	Lys
	50					55					60				
Lys	Leu	Pro	His	Gln	Thr	Ile	Gly	Tyr	Arg	Gln	Tyr	Asp	Gly	Thr	Phe
65				70						75					80
Leu	Cys	Thr	Leu	Pro	Ile	Thr	Glu	His	Ser	Gly	Leu	Leu	Phe	Ser	Thr
			85						90					95	
Gly	Tyr	Ile	Gly	Ala	Asp	Ile	Gln	Trp	Lys	Ser	Ser	Leu	Pro	Ile	Ser
		100						105					110		
Glu	Thr	Asp	Pro	Asn	Gly	Leu	Gly	Trp	Ala	Thr	Phe	Gln	Asp	Thr	Ser
		115					120					125			
Phe	Tyr	Asn	Tyr	Val	Leu	Leu	Ser	Leu	Gly	Ala	Tyr	Thr	Leu	Ser	Leu
	130					135					140				
Lys	Asn	Trp	Gln	Trp	Ser	Ile	Ile	Leu	Ser	Gly	Leu	Val	Asp	Pro	Lys
145				150						155					160
Asn	Ile	Glu	Met	Gly	Tyr	Gly	Leu	Tyr	Gln	Gly	Val	Leu	Ser	Gly	Lys
			165					170						175	
Tyr	Gln	Ala	Thr	Glu	Lys	Leu	Ser	Ala	Ile	Phe	Gly	Val	Ile	Asn	Glu
		180						185					190		

Thr Gly Leu His Gln Glu Lys Ala Trp Pro Leu Val Gly Val Ser Tyr  
 195 200 205  
 Lys Ala Thr Asp Gln Leu Thr Leu Asn Cys Ile Tyr Pro Val Asn Phe  
 210 215 220  
 Ser Ile Asp Tyr Arg Ser Thr Ser Val Cys Asn Leu Gly Leu Ala Tyr  
 225 230 235 240  
 Arg Leu Thr Arg Phe Arg Lys Lys Leu His Lys Asn His Leu Ile Ser  
 245 250 255  
 Ser Arg Gly Ile Phe Glu Tyr Gln Gly Arg Glu Ile Glu Ala Asn Val  
 260 265 270  
 Lys Leu Thr Pro Trp Pro Gly Ser Phe Ile Lys Gly Phe Tyr Gly Trp  
 275 280 285  
 Ser Ile Gly Asn Asp Ile Ser Ile Ala Asp Asp His Asn Asn Asn Lys  
 290 295 300  
 Thr Ser His Thr Phe Lys Thr Ser Ala Phe Phe Gly Gly Ser Ala Val  
 305 310 315 320  
 Met Asn Phe

<210> 444  
 <211> 179  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 444  
 Asn Ile Leu Phe Gln Thr Asp Met Gly Phe Lys Asn Ile Cys Lys Gln  
 1 5 10 15  
 Gly Ser Gln Leu Tyr Leu Asn Gly Ile Phe Pro Glu Arg Ile Leu Ala  
 20 25 30  
 Arg Lys Leu Lys Asn Cys Ala Lys Ser Tyr Pro Arg Thr Ala Leu Thr  
 35 40 45  
 Ile Glu Val Leu Val Ser Ser Val Leu Gly Ala Leu Lys Val Ile Leu  
 50 55 60  
 Ile Pro Cys Ala Ser Thr Tyr Ala Ala Leu Thr Leu Pro Leu Arg Ala  
 65 70 75 80  
 Leu Phe Asn Ala Ile Lys Thr Lys Ser Cys Gln His Leu Ala Ser Tyr  
 85 90 95  
 Ala Met Ala Trp Leu Leu His Ile Leu Thr Ile Ala Val Ile Ile Gly  
 100 105 110  
 Leu Val Phe Ser Leu Val Phe Ile Pro Pro Pro Val Val Phe Ile Ser  
 115 120 125  
 Leu Gly Leu Leu Met Ser Val Thr Thr Ser Val Thr Leu Phe Gln Val  
 130 135 140  
 His Lys Asn Leu Phe Pro Pro Tyr Glu Pro Pro Pro Ser Arg Pro His  
 145 150 155 160  
 Thr Pro Pro Pro Phe Ala Asp Glu Tyr Val Pro Leu Ile Ser Glu Ser  
 165 170 175  
 Tyr Phe Asp

<210> 445  
 <211> 420  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 445  
 Val Asp Ser Met Ser Gln Pro Pro Ile Asn Pro Leu Gly Gln Pro Gln  
 1 5 10 15  
 Val Pro Ala Ala Ala Ser Pro Ser Gly Gln Pro Ser Val Val Lys Arg  
 20 25 30

Leu Lys Thr Ser Ser Thr Gly Leu Phe Lys Arg Phe Ile Thr Ile Pro  
 35 40 45  
 Asp Lys Tyr Pro Lys Met Arg Tyr Val Tyr Asp Thr Gly Ile Ile Ala  
 50 55 60  
 Leu Ala Ala Ile Ala Ile Leu Ser Ile Leu Leu Thr Ala Ser Gly Asn  
 65 70 75 80  
 Ser Leu Met Leu Tyr Ala Leu Ala Pro Ala Leu Ala Leu Gly Ala Leu  
 85 90 95  
 Gly Val Thr Leu Leu Ile Ser Asp Ile Leu Asp Ser Pro Lys Ala Lys  
 100 105 110  
 Lys Ile Gly Glu Ala Ile Thr Ala Ile Val Val Pro Ile Ile Val Leu  
 115 120 125  
 Ala Ile Ala Ala Gly Leu Ile Ala Gly Ala Phe Val Ala Ser Ser Gly  
 130 135 140  
 Thr Met Leu Val Phe Ala Asn Pro Met Phe Val Met Gly Leu Ile Thr  
 145 150 155 160  
 Val Gly Leu Tyr Phe Met Ser Leu Asn Lys Leu Thr Leu Asp Tyr Phe  
 165 170 175  
 Arg Arg Glu His Leu Leu Arg Met Glu Lys Lys Thr Gln Glu Thr Ala  
 180 185 190  
 Glu Pro Ile Leu Val Thr Pro Ser Ala Asp Asp Ala Lys Lys Ile Ala  
 195 200 205  
 Val Glu Lys Lys Lys Asp Leu Ser Ala Ser Ala Arg Met Glu Glu His  
 210 215 220  
 Glu Ala Ser Gln Arg Gln Asp Ala Arg His Arg Arg Ile Gly Arg Glu  
 225 230 235 240  
 Ala Gln Gly Ser Phe Tyr Ser Ser Arg Asn Pro Glu His Arg Arg  
 245 250 255  
 Ser Phe Gly Ser Leu Ser Arg Phe Lys Thr Lys Pro Ser Asp Ala Ala  
 260 265 270  
 Ser Thr Arg Pro Ala Ser Ile Ser Pro Pro Phe Lys Asp Asp Phe Gln  
 275 280 285  
 Pro Tyr His Phe Lys Asp Leu Arg Ser Ser Ser Phe Gly Ser Gly Ala  
 290 295 300  
 Ser Ser Ala Phe Thr Pro Ile Met Pro Ala Ser Ser Arg Ser Pro Asn  
 305 310 315 320  
 Phe Ser Thr Gly Thr Val Leu His Pro Glu Pro Val Tyr Pro Lys Gly  
 325 330 335  
 Gly Lys Glu Pro Ser Ile Pro Arg Val Ser Ser Ser Ser Arg Arg Ser  
 340 345 350  
 Pro Arg Asp Arg Gln Asp Lys Gln Gln Gln Gln Asn Gln Asp Glu  
 355 360 365  
 Glu Gln Lys Gln Gln Ser Lys Lys Lys Ser Gly Lys Ser Asn Gln Ser  
 370 375 380  
 Leu Lys Thr Pro Pro Pro Asp Gly Lys Ser Thr Ala Asn Leu Ser Pro  
 385 390 395 400  
 Ser Asn Pro Phe Ser Asp Gly Tyr Asp Glu Arg Glu Lys Arg Lys His  
 405 410 415  
 Arg Lys Asn Lys  
 420

<210> 446

<211> 1414

<212> PRT

<213> Chlamydia pneumoniae

<400> 446

Lys Ala Phe Pro Gln Arg His Met Lys Tyr Ser Leu Pro Trp Leu Leu  
 1 5 10 15  
 Thr Ser Ser Ala Leu Val Phe Ser Leu His Pro Leu Met Ala Ala Asn  
 20 25 30

Thr Asp Leu Ser Ser Ser Asp Asn Tyr Glu Asn Gly Ser Ser Gly Ser  
 35 40 45  
 Ala Ala Phe Thr Ala Lys Glu Thr Ser Asp Ala Ser Gly Thr Thr Tyr  
 50 55 60  
 Thr Leu Thr Ser Asp Val Ser Ile Thr Asn Val Ser Ala Ile Thr Pro  
 65 70 75 80  
 Ala Asp Lys Ser Cys Phe Thr Asn Thr Gly Gly Ala Leu Ser Phe Val  
 85 90 95  
 Gly Ala Asp His Ser Leu Val Leu Gln Thr Ile Ala Leu Thr His Asp  
 100 105 110  
 Gly Ala Ala Ile Asn Asn Thr Asn Thr Ala Leu Ser Phe Ser Gly Phe  
 115 120 125  
 Ser Ser Leu Leu Ile Asp Ser Ala Pro Ala Thr Gly Thr Ser Gly Gly  
 130 135 140  
 Lys Gly Ala Ile Cys Val Thr Asn Thr Glu Gly Gly Thr Ala Thr Phe  
 145 150 155 160  
 Thr Asp Asn Ala Ser Val Thr Leu Gln Lys Asn Thr Ser Glu Lys Asp  
 165 170 175  
 Gly Ala Ala Val Ser Ala Tyr Ser Ile Asp Leu Ala Lys Thr Thr Thr  
 180 185 190  
 Ala Ala Leu Asp Gln Asn Thr Ser Thr Lys Asn Gly Gly Ala Leu  
 195 200 205  
 Cys Ser Thr Ala Asn Thr Thr Val Gln Gly Asn Ser Gly Thr Val Thr  
 210 215 220  
 Phe Ser Ser Asn Thr Ala Thr Asp Lys Gly Gly Gly Ile Tyr Ser Lys  
 225 230 235 240  
 Glu Lys Asp Ser Thr Leu Asp Ala Asn Thr Gly Val Val Thr Phe Lys  
 245 250 255  
 Ser Asn Thr Ala Lys Thr Gly Gly Ala Trp Ser Ser Asp Asp Asn Leu  
 260 265 270  
 Ala Leu Thr Gly Asn Thr Gln Val Leu Phe Gln Glu Asn Lys Thr Thr  
 275 280 285  
 Gly Ser Ala Ala Gln Ala Asn Asn Pro Glu Gly Cys Gly Gly Ala Ile  
 290 295 300  
 Cys Cys Tyr Leu Ala Thr Ala Thr Asp Lys Thr Gly Leu Ala Ile Ser  
 305 310 315 320  
 Gln Asn Gln Glu Met Ser Phe Thr Ser Asn Thr Thr Thr Ala Asn Gly  
 325 330 335  
 Gly Ala Ile Tyr Ala Thr Lys Cys Thr Leu Asp Gly Asn Thr Thr Leu  
 340 345 350  
 Thr Phe Asp Gln Asn Thr Ala Thr Ala Gly Cys Gly Gly Ala Ile Tyr  
 355 360 365  
 Thr Glu Thr Glu Asp Phe Ser Leu Lys Gly Ser Thr Gly Thr Val Thr  
 370 375 380  
 Phe Ser Thr Asn Thr Ala Lys Thr Gly Gly Ala Leu Tyr Ser Lys Gly  
 385 390 395 400  
 Asn Ser Ser Leu Thr Gly Asn Thr Asn Leu Leu Phe Ser Gly Asn Lys  
 405 410 415  
 Ala Thr Gly Pro Ser Asn Ser Ser Ala Asn Gln Glu Gly Cys Gly Gly  
 420 425 430  
 Ala Ile Leu Ala Phe Ile Asp Ser Gly Ser Val Ser Asp Lys Thr Gly  
 435 440 445  
 Leu Ser Ile Ala Asn Asn Gln Glu Val Ser Leu Thr Ser Asn Ala Ala  
 450 455 460  
 Thr Val Ser Gly Gly Ala Ile Tyr Ala Thr Lys Cys Thr Leu Thr Gly  
 465 470 475 480  
 Asn Gly Ser Leu Thr Phe Asp Gly Asn Thr Ala Gly Thr Ser Gly Gly  
 485 490 495  
 Ala Ile Tyr Thr Glu Thr Glu Asp Phe Thr Leu Thr Gly Ser Thr Gly  
 500 505 510

Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Leu	Tyr
		515					520					525			
Ser	Lys	Gly	Asn	Asn	Ser	Leu	Ser	Gly	Asn	Thr	Asn	Leu	Leu	Phe	Ser
	530					535					540				
Gly	Asn	Lys	Ala	Thr	Gly	Pro	Ser	Asn	Ser	Ser	Ala	Asn	Gln	Glu	Gly
545					550					555					560
Cys	Gly	Gly	Ala	Ile	Leu	Ser	Phe	Leu	Glu	Ser	Ala	Ser	Val	Ser	Thr
				565					570					575	
Lys	Lys	Gly	Leu	Trp	Ile	Glu	Asp	Asn	Glu	Asn	Val	Ser	Leu	Ser	Gly
			580					585					590		
Asn	Thr	Ala	Thr	Val	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Ala
		595					600						605		
Leu	His	Gly	Asn	Thr	Thr	Leu	Thr	Phe	Asp	Gly	Asn	Thr	Ala	Glu	Thr
	610					615					620				
Ala	Gly	Gly	Ala	Ile	Tyr	Thr	Glu	Thr	Glu	Asp	Phe	Thr	Leu	Thr	Gly
625					630					635					640
Ser	Thr	Gly	Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Ala	Gly
				645					650					655	
Ala	Leu	His	Thr	Lys	Gly	Asn	Thr	Ser	Phe	Thr	Lys	Asn	Lys	Ala	Leu
			660					665					670		
Val	Phe	Ser	Gly	Asn	Ser	Ala	Thr	Ala	Thr	Ala	Thr	Thr	Thr	Thr	Asp
		675					680						685		
Gln	Glu	Gly	Cys	Gly	Gly	Ala	Ile	Leu	Cys	Asn	Ile	Ser	Glu	Ser	Asp
	690					695					700				
Ile	Ala	Thr	Lys	Ser	Leu	Thr	Leu	Thr	Glu	Asn	Glu	Ser	Leu	Ser	Phe
705					710					715					720
Ile	Asn	Asn	Thr	Ala	Lys	Arg	Ser	Gly	Gly	Gly	Ile	Tyr	Ala	Pro	Lys
				725					730					735	
Cys	Val	Ile	Ser	Gly	Ser	Glu	Ser	Ile	Asn	Phe	Asp	Gly	Asn	Thr	Ala
			740					745					750		
Glu	Thr	Ser	Gly	Gly	Ala	Ile	Tyr	Ser	Lys	Asn	Leu	Ser	Ile	Thr	Ala
		755					760					765			
Asn	Gly	Pro	Val	Ser	Phe	Thr	Asn	Asn	Ser	Gly	Gly	Lys	Gly	Gly	Ala
	770					775					780				
Ile	Tyr	Ile	Ala	Asp	Ser	Gly	Glu	Leu	Ser	Leu	Glu	Ala	Ile	Asp	Gly
785					790					795					800
Asp	Ile	Thr	Phe	Ser	Gly	Asn	Arg	Ala	Thr	Glu	Gly	Thr	Ser	Thr	Pro
				805					810					815	
Asn	Ser	Ile	His	Leu	Gly	Ala	Gly	Ala	Lys	Ile	Thr	Lys	Leu	Ala	Ala
			820					825					830		
Ala	Pro	Gly	His	Thr	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr	Met	Glu	Ala
		835					840					845			
Pro	Ala	Ser	Gly	Gly	Thr	Ile	Glu	Glu	Leu	Val	Ile	Asn	Pro	Val	Val
	850					855					860				
Lys	Ala	Ile	Val	Pro	Pro	Pro	Gln	Pro	Lys	Asn	Gly	Pro	Ile	Ala	Ser
865					870					875					880
Val	Pro	Val	Val	Pro	Val	Ala	Pro	Ala	Asn	Pro	Asn	Thr	Gly	Thr	Ile
				885					890					895	
Val	Phe	Ser	Ser	Gly	Lys	Leu	Pro	Ser	Gln	Asp	Ala	Ser	Ile	Pro	Ala
			900					905					910		
Asn	Thr	Thr	Thr	Ile	Leu	Asn	Gln	Lys	Ile	Asn	Leu	Ala	Gly	Gly	Asn
		915					920						925		
Val	Val	Leu	Lys	Glu	Gly	Ala	Thr	Leu	Gln	Val	Tyr	Ser	Phe	Thr	Gln
	930					935					940				
Gln	Pro	Asp	Ser	Thr	Val	Phe	Met	Asp	Ala	Gly	Thr	Thr	Leu	Glu	Thr
945					950					955					960
Thr	Thr	Thr	Asn	Asn	Thr	Asp	Gly	Ser	Ile	Asp	Leu	Lys	Asn	Leu	Ser
				965						970				975	
Val	Asn	Leu	Asp	Ala	Leu	Asp	Gly	Lys	Arg	Met	Ile	Thr	Ile	Ala	Val
			980					985					990		



Asn Ser Thr Ser Gly Gly Leu Lys Ile Ser Gly Asp Leu Lys Phe His  
 995 1000 1005  
 Asn Asn Glu Gly Ser Phe Tyr Asp Asn Pro Gly Leu Lys Ala Asn Leu  
 1010 1015 1020  
 Asn Leu Pro Phe Leu Asp Leu Ser Ser Thr Ser Gly Thr Val Asn Leu  
 1025 1030 1035 1040  
 Asp Asp Phe Asn Pro Ile Pro Ser Ser Met Ala Ala Pro Asp Tyr Gly  
 1045 1050 1055  
 Tyr Gln Gly Ser Trp Thr Leu Val Pro Lys Val Gly Ala Gly Gly Lys  
 1060 1065 1070  
 Val Thr Leu Val Ala Glu Trp Gln Ala Leu Gly Tyr Thr Pro Lys Pro  
 1075 1080 1085  
 Glu Leu Arg Ala Thr Leu Val Pro Asn Ser Leu Trp Asn Ala Tyr Val  
 1090 1095 1100  
 Asn Ile His Ser Ile Gln Gln Glu Ile Ala Thr Ala Met Ser Asp Ala  
 1105 1110 1115 1120  
 Pro Ser His Pro Gly Ile Trp Ile Gly Gly Ile Gly Asn Ala Phe His  
 1125 1130 1135  
 Gln Asp Lys Gln Lys Glu Asn Ala Gly Phe Arg Leu Ile Ser Arg Gly  
 1140 1145 1150  
 Tyr Ile Val Gly Gly Ser Met Thr Thr Pro Gln Glu Tyr Thr Phe Ala  
 1155 1160 1165  
 Val Ala Phe Ser Gln Leu Phe Gly Lys Ser Lys Asp Tyr Val Val Ser  
 1170 1175 1180  
 Asp Ile Lys Ser Gln Val Tyr Ala Gly Ser Leu Cys Ala Gln Ser Ser  
 1185 1190 1195 1200  
 Tyr Val Ile Pro Leu His Ser Ser Leu Arg Arg His Val Leu Ser Lys  
 1205 1210 1215  
 Val Leu Pro Glu Leu Pro Gly Glu Thr Pro Leu Val Leu His Gly Gln  
 1220 1225 1230  
 Val Ser Tyr Gly Arg Asn His His Asn Met Thr Thr Lys Leu Ala Asn  
 1235 1240 1245  
 Asn Thr Gln Gly Lys Ser Asp Trp Asp Ser His Ser Phe Ala Val Glu  
 1250 1255 1260  
 Val Gly Gly Ser Leu Pro Val Asp Leu Asn Tyr Arg Tyr Leu Thr Ser  
 1265 1270 1275 1280  
 Tyr Ser Pro Tyr Val Lys Leu Gln Val Val Ser Val Asn Gln Lys Gly  
 1285 1290 1295  
 Phe Gln Glu Val Ala Ala Asp Pro Arg Ile Phe Asp Ala Ser His Leu  
 1300 1305 1310  
 Val Asn Val Ser Ile Pro Met Gly Leu Thr Phe Lys His Glu Ser Ala  
 1315 1320 1325  
 Lys Pro Pro Ser Ala Leu Leu Thr Leu Gly Tyr Ala Val Asp Ala  
 1330 1335 1340  
 Tyr Arg Asp His Pro His Cys Leu Thr Ser Leu Thr Asn Gly Thr Ser  
 1345 1350 1355 1360  
 Trp Ser Thr Phe Ala Thr Asn Leu Ser Arg Gln Ala Phe Phe Ala Glu  
 1365 1370 1375  
 Ala Ser Gly His Leu Lys Leu Leu His Gly Leu Asp Cys Phe Ala Ser  
 1380 1385 1390  
 Gly Ser Cys Glu Leu Arg Ser Ser Ser Arg Ser Tyr Asn Ala Asn Cys  
 1395 1400 1405  
 Gly Thr Arg Tyr Ser Phe  
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<210> 447

<211> 947

<212> PRT

<213> Chlamydia pneumoniae

<400> 447

Phe	Asn	Phe	Leu	Val	Ser	Lys	Lys	Cys	Leu	Gln	Met	Lys	Ser	Ser	Val
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Ser	Trp	Leu	Phe	Phe	Ser	Ser	Ile	Pro	Leu	Phe	Ser	Ser	Leu	Ser	Ile
		20						25					30		
Val	Ala	Ala	Glu	Val	Thr	Leu	Asp	Ser	Ser	Asn	Asn	Ser	Tyr	Asp	Gly
		35					40					45			
Ser	Asn	Gly	Thr	Thr	Phe	Thr	Val	Phe	Ser	Thr	Thr	Asp	Ala	Ala	Ala
	50					55				60					
Gly	Thr	Thr	Tyr	Ser	Leu	Leu	Ser	Asp	Val	Ser	Phe	Gln	Asn	Ala	Gly
65					70					75				80	
Ala	Leu	Gly	Ile	Pro	Leu	Ala	Ser	Gly	Cys	Phe	Leu	Glu	Ala	Gly	Gly
			85						90					95	
Asp	Leu	Thr	Phe	Gln	Gly	Asn	Gln	His	Ala	Leu	Lys	Phe	Ala	Phe	Ile
		100						105					110		
Asn	Ala	Gly	Ser	Ser	Ala	Gly	Thr	Val	Ala	Ser	Thr	Ser	Ala	Ala	Asp
		115					120					125			
Lys	Asn	Leu	Leu	Phe	Asn	Asp	Phe	Ser	Arg	Leu	Ser	Ile	Ile	Ser	Cys
	130					135					140				
Pro	Ser	Leu	Leu	Leu	Ser	Pro	Thr	Gly	Gln	Cys	Ala	Leu	Lys	Ser	Val
145					150					155					160
Gly	Asn	Leu	Ser	Leu	Thr	Gly	Asn	Ser	Gln	Ile	Ile	Phe	Thr	Gln	Asn
				165					170					175	
Phe	Ser	Ser	Asp	Asn	Gly	Gly	Val	Ile	Asn	Thr	Lys	Asn	Phe	Leu	Leu
			180					185					190		
Ser	Gly	Thr	Ser	Gln	Phe	Ala	Ser	Phe	Ser	Arg	Asn	Gln	Ala	Phe	Thr
	195						200					205			
Gly	Lys	Gln	Gly	Gly	Val	Val	Tyr	Ala	Thr	Gly	Thr	Ile	Thr	Ile	Glu
	210					215					220				
Asn	Ser	Pro	Gly	Ile	Val	Ser	Phe	Ser	Gln	Asn	Leu	Ala	Lys	Gly	Ser
225					230					235					240
Gly	Gly	Ala	Leu	Tyr	Ser	Thr	Asp	Asn	Cys	Ser	Ile	Thr	Asp	Asn	Phe
				245					250					255	
Gln	Val	Ile	Phe	Asp	Gly	Asn	Ser	Ala	Trp	Glu	Ala	Ala	Gln	Ala	Gln
			260					265					270		
Gly	Gly	Ala	Ile	Cys	Cys	Thr	Thr	Thr	Asp	Lys	Thr	Val	Thr	Leu	Thr
	275						280					285			
Gly	Asn	Lys	Asn	Leu	Ser	Phe	Thr	Asn	Asn	Thr	Ala	Leu	Thr	Tyr	Gly
	290					295					300				
Gly	Ala	Ile	Ser	Gly	Leu	Lys	Val	Ser	Ile	Ser	Ala	Gly	Gly	Pro	Thr
305					310					315					320
Leu	Phe	Gln	Ser	Asn	Ile	Ser	Gly	Ser	Ser	Ala	Gly	Gln	Gly	Gly	Gly
				325					330					335	
Gly	Ala	Ile	Asn	Ile	Ala	Ser	Ala	Gly	Glu	Leu	Ala	Leu	Ser	Ala	Thr
			340					345					350		
Ser	Gly	Asp	Ile	Thr	Phe	Asn	Asn	Asn	Gln	Val	Thr	Asn	Gly	Ser	Thr
		355					360					365			
Ser	Thr	Arg	Asn	Ala	Ile	Asn	Ile	Ile	Asp	Thr	Ala	Lys	Val	Thr	Ser
	370					375					380				
Ile	Arg	Ala	Ala	Thr	Gly	Gln	Ser	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr
385					390					395					400
Asn	Pro	Gly	Thr	Ala	Ala	Ser	Thr	Asp	Thr	Leu	Asn	Leu	Asn	Leu	Ala
				405					410					415	
Asp	Ala	Asn	Ser	Glu	Ile	Glu	Tyr	Gly	Gly	Ala	Ile	Val	Phe	Ser	Gly
			420					425				430			
Glu	Lys	Leu	Ser	Pro	Thr	Glu	Lys	Ala	Ile	Ala	Ala	Asn	Val	Thr	Ser
		435					440					445			
Thr	Ile	Arg	Gln	Pro	Ala	Val	Leu	Ala	Arg	Gly	Asp	Leu	Val	Leu	Arg
	450					455					460				
Asp	Gly	Val	Thr	Val	Thr	Phe	Lys	Asp	Leu	Thr	Gln	Ser	Pro	Gly	Ser
465					470					475					480

Arg Ile Leu Met Asp Gly Gly Thr Thr Leu Ser Ala Lys Glu Ala Asn  
 485 490 495  
 Leu Ser Leu Asn Gly Leu Ala Val Asn Leu Ser Ser Leu Asp Gly Thr  
 500 505 510  
 Asn Lys Ala Ala Leu Lys Thr Glu Ala Ala Asp Lys Asn Ile Ser Leu  
 515 520 525  
 Ser Gly Thr Ile Ala Leu Ile Asp Thr Glu Gly Ser Phe Tyr Glu Asn  
 530 535 540  
 His Asn Leu Lys Ser Ala Ser Thr Tyr Pro Leu Leu Glu Leu Thr Thr  
 545 550 555 560  
 Ala Gly Ala Asn Gly Thr Ile Thr Leu Gly Ala Leu Ser Thr Leu Thr  
 565 570 575  
 Leu Gln Glu Pro Glu Thr His Tyr Gly Tyr Gln Gly Asn Trp Gln Leu  
 580 585 590  
 Ser Trp Ala Asn Ala Thr Ser Ser Lys Ile Gly Ser Ile Asn Trp Thr  
 595 600 605  
 Arg Thr Gly Tyr Ile Pro Ser Pro Glu Arg Lys Ser Asn Leu Pro Leu  
 610 615 620  
 Asn Ser Leu Trp Gly Asn Phe Ile Asp Ile Arg Ser Ile Asn Gln Leu  
 625 630 635 640  
 Ile Glu Thr Lys Ser Ser Gly Glu Pro Phe Glu Arg Glu Leu Trp Leu  
 645 650 655  
 Ser Gly Ile Ala Asn Phe Phe Tyr Arg Asp Ser Met Pro Thr Arg His  
 660 665 670  
 Gly Phe Arg His Ile Ser Gly Gly Tyr Ala Leu Gly Ile Thr Ala Thr  
 675 680 685  
 Thr Pro Ala Glu Asp Gln Leu Thr Phe Ala Phe Cys Gln Leu Phe Ala  
 690 695 700  
 Arg Asp Arg Asn His Ile Thr Gly Lys Asn His Gly Asp Thr Tyr Gly  
 705 710 715 720  
 Ala Ser Leu Tyr Phe His His Thr Glu Gly Leu Phe Asp Ile Ala Asn  
 725 730 735  
 Phe Leu Trp Gly Lys Ala Thr Arg Ala Pro Trp Val Leu Ser Glu Ile  
 740 745 750  
 Ser Gln Ile Ile Pro Leu Ser Phe Asp Ala Lys Phe Ser Tyr Leu His  
 755 760 765  
 Thr Asp Asn His Met Lys Thr Tyr Tyr Thr Asp Asn Ser Ile Ile Lys  
 770 775 780  
 Gly Ser Trp Arg Asn Asp Ala Phe Cys Ala Asp Leu Gly Ala Ser Leu  
 785 790 795 800  
 Pro Phe Val Ile Ser Val Pro Tyr Leu Leu Lys Glu Val Glu Pro Phe  
 805 810 815  
 Val Lys Val Gln Tyr Ile Tyr Ala His Gln Gln Asp Phe Tyr Glu Arg  
 820 825 830  
 His Ala Glu Gly Arg Ala Phe Asn Lys Ser Glu Leu Ile Asn Val Glu  
 835 840 845  
 Ile Pro Ile Gly Val Thr Phe Glu Arg Asp Ser Lys Ser Glu Lys Gly  
 850 855 860  
 Thr Tyr Asp Leu Thr Leu Met Tyr Ile Leu Asp Ala Tyr Arg Arg Asn  
 865 870 875 880  
 Pro Lys Cys Gln Thr Ser Leu Ile Ala Ser Asp Ala Asn Trp Met Ala  
 885 890 895  
 Tyr Gly Thr Asn Leu Ala Arg Gln Gly Phe Ser Val Arg Ala Ala Asn  
 900 905 910  
 His Phe Gln Val Asn Pro His Met Glu Ile Phe Gly Gln Phe Ala Phe  
 915 920 925  
 Glu Val Arg Ser Ser Ser Arg Asn Tyr Asn Thr Asn Leu Gly Ser Lys  
 930 935 940  
 Phe Cys Phe  
 945

<210> 448  
 <211> 938  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 448

Leu	Ile	Glu	Pro	Lys	His	Leu	Ser	Met	Lys	Ile	Pro	Leu	His	Lys	Leu
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Leu	Ile	Ser	Ser	Thr	Leu	Val	Thr	Pro	Ile	Leu	Leu	Ser	Ile	Ala	Thr
			20					25					30		
Tyr	Gly	Ala	Asp	Ala	Ser	Leu	Ser	Pro	Thr	Asp	Ser	Phe	Asp	Gly	Ala
		35					40					45			
Gly	Gly	Ser	Thr	Phe	Thr	Pro	Lys	Ser	Thr	Ala	Asp	Ala	Asn	Gly	Thr
	50					55				60					
Asn	Tyr	Val	Leu	Ser	Gly	Asn	Val	Tyr	Ile	Asn	Asp	Ala	Gly	Lys	Gly
65					70				75					80	
Thr	Ala	Leu	Thr	Gly	Cys	Cys	Phe	Thr	Glu	Thr	Thr	Gly	Asp	Leu	Thr
				85					90					95	
Phe	Thr	Gly	Lys	Gly	Tyr	Ser	Phe	Ser	Phe	Asn	Thr	Val	Asp	Ala	Gly
			100					105					110		
Ser	Asn	Ala	Gly	Ala	Ala	Ala	Ser	Thr	Thr	Ala	Asp	Lys	Ala	Leu	Thr
		115					120					125			
Phe	Thr	Gly	Phe	Ser	Asn	Leu	Ser	Phe	Ile	Ala	Ala	Pro	Gly	Thr	Thr
	130					135					140				
Val	Ala	Ser	Gly	Lys	Ser	Thr	Leu	Ser	Ser	Ala	Gly	Ala	Leu	Asn	Leu
145					150					155				160	
Thr	Asp	Asn	Gly	Thr	Ile	Leu	Phe	Ser	Gln	Asn	Val	Ser	Asn	Glu	Ala
			165					170					175		
Asn	Asn	Asn	Gly	Gly	Ala	Ile	Thr	Thr	Lys	Thr	Leu	Ser	Ile	Ser	Gly
		180						185					190		
Asn	Thr	Ser	Ser	Ile	Thr	Phe	Thr	Ser	Asn	Ser	Ala	Lys	Lys	Leu	Gly
	195						200					205			
Gly	Ala	Ile	Tyr	Ser	Ser	Ala	Ala	Ala	Ser	Ile	Ser	Gly	Asn	Thr	Gly
	210					215					220				
Gln	Leu	Val	Phe	Met	Asn	Asn	Lys	Gly	Glu	Thr	Gly	Gly	Gly	Ala	Leu
225					230					235				240	
Gly	Phe	Glu	Ala	Ser	Ser	Ser	Ile	Thr	Gln	Asn	Ser	Ser	Leu	Phe	Phe
			245						250				255		
Ser	Gly	Asn	Thr	Ala	Thr	Asp	Ala	Ala	Gly	Lys	Gly	Gly	Ala	Ile	Tyr
		260					265						270		
Cys	Glu	Lys	Thr	Gly	Glu	Thr	Pro	Thr	Leu	Thr	Ile	Ser	Gly	Asn	Lys
	275						280					285			
Ser	Leu	Thr	Phe	Ala	Glu	Asn	Ser	Ser	Val	Thr	Gln	Gly	Gly	Ala	Ile
	290					295					300				
Cys	Ala	His	Gly	Leu	Asp	Leu	Ser	Ala	Ala	Gly	Pro	Thr	Leu	Phe	Ser
305					310					315				320	
Asn	Asn	Arg	Cys	Gly	Asn	Thr	Ala	Ala	Gly	Lys	Gly	Gly	Ala	Ile	Ala
			325						330				335		
Ile	Ala	Asp	Ser	Gly	Ser	Leu	Ser	Leu	Ser	Ala	Asn	Gln	Gly	Asp	Ile
		340					345					350			
Thr	Phe	Leu	Gly	Asn	Thr	Leu	Thr	Ser	Thr	Ser	Ala	Pro	Thr	Ser	Thr
	355					360					365				
Arg	Asn	Ala	Ile	Tyr	Leu	Gly	Ser	Ser	Ala	Lys	Ile	Thr	Asn	Leu	Arg
	370					375					380				
Ala	Ala	Gln	Gly	Gln	Ser	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Ala	Ser	Asn
385					390					395				400	
Thr	Thr	Gly	Ala	Ser	Asp	Val	Leu	Thr	Ile	Asn	Gln	Pro	Asp	Ser	Asn
			405						410				415		
Ser	Pro	Leu	Asp	Tyr	Ser	Gly	Thr	Ile	Val	Phe	Ser	Gly	Glu	Lys	Leu
			420					425					430		

Ser	Ala	Asp	Glu	Ala	Lys	Ala	Ala	Asp	Asn	Phe	Thr	Ser	Ile	Leu	Lys
		435					440					445			
Gln	Pro	Leu	Ala	Leu	Ala	Ser	Gly	Thr	Leu	Ala	Leu	Lys	Gly	Asn	Val
	450					455					460				
Glu	Leu	Asp	Val	Asn	Gly	Phe	Thr	Gln	Thr	Glu	Gly	Ser	Thr	Leu	Leu
465				470						475					480
Met	Gln	Pro	Gly	Thr	Lys	Leu	Lys	Ala	Asp	Thr	Glu	Ala	Ile	Ser	Leu
			485						490					495	
Thr	Lys	Leu	Val	Val	Asp	Leu	Ser	Ala	Leu	Glu	Gly	Asn	Lys	Ser	Val
		500						505					510		
Ser	Ile	Glu	Thr	Ala	Gly	Ala	Asn	Lys	Thr	Ile	Thr	Leu	Thr	Ser	Pro
	515						520					525			
Leu	Val	Phe	Gln	Asp	Ser	Ser	Gly	Asn	Phe	Tyr	Glu	Ser	His	Thr	Ile
	530					535					540				
Asn	Gln	Ala	Phe	Thr	Gln	Pro	Leu	Val	Val	Phe	Thr	Ala	Ala	Thr	Ala
545					550					555					560
Ala	Ser	Asp	Ile	Tyr	Ile	Asp	Ala	Leu	Leu	Thr	Ser	Pro	Val	Gln	Thr
			565					570						575	
Pro	Glu	Pro	His	Tyr	Gly	Tyr	Gln	Gly	His	Trp	Glu	Ala	Thr	Trp	Ala
		580						585					590		
Asp	Thr	Ser	Thr	Ala	Lys	Ser	Gly	Thr	Met	Thr	Trp	Val	Thr	Thr	Gly
	595						600					605			
Tyr	Asn	Pro	Asn	Pro	Glu	Arg	Arg	Ala	Ser	Val	Val	Pro	Asp	Ser	Leu
	610					615					620				
Trp	Ala	Ser	Phe	Thr	Asp	Ile	Arg	Thr	Leu	Gln	Gln	Ile	Met	Thr	Ser
625					630					635					640
Gln	Ala	Asn	Ser	Ile	Tyr	Gln	Gln	Arg	Gly	Leu	Trp	Ala	Ser	Gly	Thr
			645						650					655	
Ala	Asn	Phe	Phe	His	Lys	Asp	Lys	Ser	Gly	Thr	Asn	Gln	Ala	Phe	Arg
		660						665					670		
His	Lys	Ser	Tyr	Gly	Tyr	Ile	Val	Gly	Gly	Ser	Ala	Glu	Asp	Phe	Ser
	675						680					685			
Glu	Asn	Ile	Phe	Ser	Val	Ala	Phe	Cys	Gln	Leu	Phe	Gly	Lys	Asp	Lys
	690					695					700				
Asp	Leu	Phe	Ile	Val	Glu	Asn	Thr	Ser	His	Asn	Tyr	Leu	Ala	Ser	Leu
705					710					715					720
Tyr	Leu	Gln	His	Arg	Ala	Phe	Leu	Gly	Gly	Leu	Pro	Met	Pro	Ser	Phe
			725						730						735
Gly	Ser	Ile	Thr	Asp	Met	Leu	Lys	Asp	Ile	Pro	Leu	Ile	Leu	Asn	Ala
		740						745					750		
Gln	Leu	Ser	Tyr	Ser	Tyr	Thr	Lys	Asn	Asp	Met	Asp	Thr	Arg	Tyr	Thr
	755						760					765			
Ser	Tyr	Pro	Glu	Ala	Gln	Gly	Ser	Trp	Thr	Asn	Asn	Ser	Gly	Ala	Leu
	770					775					780				
Glu	Leu	Gly	Gly	Ser	Leu	Ala	Leu	Tyr	Leu	Pro	Lys	Glu	Ala	Pro	Phe
785					790					795					800
Phe	Gln	Gly	Tyr	Phe	Pro	Phe	Leu	Lys	Phe	Gln	Ala	Val	Tyr	Ser	Arg
			805						810						815
Gln	Gln	Asn	Phe	Lys	Glu	Ser	Gly	Ala	Glu	Ala	Arg	Ala	Phe	Asp	Asp
		820						825						830	
Gly	Asp	Leu	Val	Asn	Cys	Ser	Ile	Pro	Val	Gly	Ile	Arg	Leu	Glu	Lys
	835						840					845			
Ile	Ser	Glu	Asp	Glu	Lys	Asn	Asn	Phe	Glu	Ile	Ser	Leu	Ala	Tyr	Ile
	850					855					860				
Gly	Asp	Val	Tyr	Arg	Lys	Asn	Pro	Arg	Ser	Arg	Thr	Ser	Leu	Met	Val
865					870					875					880
Ser	Gly	Ala	Ser	Trp	Thr	Ser	Leu	Cys	Lys	Asn	Leu	Ala	Arg	Gln	Ala
			885						890						895
Phe	Leu	Ala	Ser	Ala	Gly	Ser	His	Leu	Thr	Leu	Ser	Pro	His	Val	Glu
		900						905						910	

Leu Ser Gly Glu Ala Ala Tyr Glu Leu Arg Gly Ser Ala His Ile Tyr  
 915 920 925  
 Asn Val Asp Cys Gly Leu Arg Tyr Ser Phe  
 930 935

<210> 449  
 <211> 937  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 449

Phe Val Lys Pro Pro Ile Ala Leu Tyr Met Lys Ser Ser Leu His Trp  
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 Phe Leu Ile Ser Ser Ser Leu Ala Leu Pro Leu Ser Leu Asn Phe Ser  
 20 25 30  
 Ala Phe Ala Ala Val Val Glu Ile Asn Leu Gly Pro Thr Asn Ser Phe  
 35 40 45  
 Ser Gly Pro Gly Thr Tyr Thr Pro Pro Ala Gln Thr Thr Asn Ala Asp  
 50 55 60  
 Gly Thr Ile Tyr Asn Leu Thr Gly Asp Val Ser Ile Thr Asn Ala Gly  
 65 70 75 80  
 Ser Pro Thr Ala Leu Thr Ala Ser Cys Phe Lys Glu Thr Thr Gly Asn  
 85 90 95  
 Leu Ser Phe Gln Gly His Gly Tyr Gln Phe Leu Leu Gln Asn Ile Asp  
 100 105 110  
 Ala Gly Ala Asn Cys Thr Phe Thr Asn Thr Ala Ala Asn Lys Leu Leu  
 115 120 125  
 Ser Phe Ser Gly Phe Ser Tyr Leu Ser Leu Ile Gln Thr Thr Asn Ala  
 130 135 140  
 Thr Thr Gly Thr Gly Ala Ile Lys Ser Thr Gly Ala Cys Ser Ile Gln  
 145 150 155 160  
 Ser Asn Tyr Ser Cys Tyr Phe Gly Gln Asn Phe Ser Asn Asp Asn Gly  
 165 170 175  
 Gly Ala Leu Gln Gly Ser Ser Ile Ser Leu Ser Leu Asn Pro Asn Leu  
 180 185 190  
 Thr Phe Ala Lys Asn Lys Ala Thr Gln Lys Gly Gly Ala Leu Tyr Ser  
 195 200 205  
 Thr Gly Gly Ile Thr Ile Asn Asn Thr Leu Asn Ser Ala Ser Phe Ser  
 210 215 220  
 Glu Asn Thr Ala Ala Asn Asn Gly Gly Ala Ile Tyr Thr Glu Ala Ser  
 225 230 235 240  
 Ser Phe Ile Ser Ser Asn Lys Ala Ile Ser Phe Ile Asn Asn Ser Val  
 245 250 255  
 Thr Ala Thr Ser Ala Thr Gly Gly Ala Ile Tyr Cys Ser Ser Thr Ser  
 260 265 270  
 Ala Pro Lys Pro Val Leu Thr Leu Ser Asp Asn Gly Glu Leu Asn Phe  
 275 280 285  
 Ile Gly Asn Thr Ala Ile Thr Ser Gly Gly Ala Ile Tyr Thr Asp Asn  
 290 295 300  
 Leu Val Leu Ser Ser Gly Gly Pro Thr Leu Phe Lys Asn Asn Ser Ala  
 305 310 315 320  
 Ile Asp Thr Ala Ala Pro Leu Gly Gly Ala Ile Ala Ile Ala Asp Ser  
 325 330 335  
 Gly Ser Leu Ser Leu Ser Ala Leu Gly Gly Asp Ile Thr Phe Glu Gly  
 340 345 350  
 Asn Thr Val Val Lys Gly Ala Ser Ser Ser Gln Thr Thr Thr Arg Asn  
 355 360 365  
 Ser Ile Asn Ile Gly Asn Thr Asn Ala Lys Ile Val Gln Leu Arg Ala  
 370 375 380  
 Ser Gln Gly Asn Thr Ile Tyr Phe Tyr Asp Pro Ile Thr Thr Ser Ile  
 385 390 395 400

Thr	Ala	Ala	Leu	Ser	Asp	Ala	Leu	Asn	Leu	Asn	Gly	Pro	Asp	Leu	Ala
				405					410					415	
Gly	Asn	Pro	Ala	Tyr	Gln	Gly	Thr	Ile	Val	Phe	Ser	Gly	Glu	Lys	Leu
			420					425					430		
Ser	Glu	Ala	Glu	Ala	Ala	Glu	Ala	Asp	Asn	Leu	Lys	Ser	Thr	Ile	Gln
		435					440					445			
Gln	Pro	Leu	Thr	Leu	Ala	Gly	Gly	Gln	Leu	Ser	Leu	Lys	Ser	Gly	Val
	450					455					460				
Thr	Leu	Val	Ala	Lys	Ser	Phe	Ser	Gln	Ser	Pro	Gly	Ser	Thr	Leu	Leu
465					470					475					480
Met	Asp	Ala	Gly	Thr	Thr	Leu	Glu	Thr	Ala	Asp	Gly	Ile	Thr	Ile	Asn
				485					490					495	
Asn	Leu	Val	Leu	Asn	Val	Asp	Ser	Leu	Lys	Glu	Thr	Lys	Lys	Ala	Thr
		500						505					510		
Leu	Lys	Ala	Thr	Gln	Ala	Ser	Gln	Thr	Val	Thr	Leu	Ser	Gly	Ser	Leu
		515					520					525			
Ser	Leu	Val	Asp	Pro	Ser	Gly	Asn	Val	Tyr	Glu	Asp	Val	Ser	Trp	Asn
	530					535					540				
Asn	Pro	Gln	Val	Phe	Ser	Cys	Leu	Thr	Leu	Thr	Ala	Asp	Asp	Pro	Ala
545					550					555					560
Asn	Ile	His	Ile	Thr	Asp	Leu	Ala	Ala	Asp	Pro	Leu	Glu	Lys	Asn	Pro
				565					570					575	
Ile	His	Trp	Gly	Tyr	Gln	Gly	Asn	Trp	Ala	Leu	Ser	Trp	Gln	Glu	Asp
			580					585					590		
Thr	Ala	Thr	Lys	Ser	Lys	Ala	Ala	Thr	Leu	Thr	Trp	Thr	Lys	Thr	Gly
		595					600						605		
Tyr	Asn	Pro	Asn	Pro	Glu	Arg	Arg	Gly	Thr	Leu	Val	Ala	Asn	Thr	Leu
	610					615					620				
Trp	Gly	Ser	Phe	Val	Asp	Val	Arg	Ser	Ile	Gln	Gln	Leu	Val	Ala	Thr
625					630					635					640
Lys	Val	Arg	Gln	Ser	Gln	Glu	Thr	Arg	Gly	Ile	Trp	Cys	Glu	Gly	Ile
				645					650					655	
Ser	Asn	Phe	Phe	His	Lys	Asp	Ser	Thr	Lys	Ile	Asn	Lys	Gly	Phe	Arg
			660					665					670		
His	Ile	Ser	Ala	Gly	Tyr	Val	Val	Gly	Ala	Thr	Thr	Thr	Leu	Ala	Ser
		675						680					685		
Asp	Asn	Leu	Ile	Thr	Ala	Ala	Phe	Cys	Gln	Leu	Phe	Gly	Lys	Asp	Arg
	690					695					700				
Asp	His	Phe	Ile	Asn	Lys	Asn	Arg	Ala	Ser	Ala	Tyr	Ala	Ala	Ser	Leu
705					710					715					720
His	Leu	Gln	His	Leu	Ala	Thr	Leu	Ser	Ser	Pro	Ser	Leu	Leu	Arg	Tyr
				725					730					735	
Leu	Pro	Gly	Ser	Glu	Ser	Glu	Gln	Pro	Val	Leu	Phe	Asp	Ala	Gln	Ile
			740					745					750		
Ser	Tyr	Ile	Tyr	Ser	Lys	Asn	Thr	Met	Lys	Thr	Tyr	Tyr	Thr	Gln	Ala
		755					760						765		
Pro	Lys	Gly	Glu	Ser	Ser	Trp	Tyr	Asn	Asp	Gly	Cys	Ala	Leu	Glu	Leu
	770					775					780				
Ala	Ser	Ser	Leu	Pro	His	Thr	Ala	Leu	Ser	His	Glu	Gly	Leu	Phe	His
785					790					795					800
Ala	Tyr	Phe	Pro	Phe	Ile	Lys	Val	Glu	Ala	Ser	Tyr	Ile	His	Gln	Asp
				805					810					815	
Ser	Phe	Lys	Glu	Arg	Asn	Thr	Thr	Leu	Val	Arg	Ser	Phe	Asp	Ser	Gly
			820					825					830		
Asp	Leu	Ile	Asn	Val	Ser	Val	Pro	Ile	Gly	Ile	Thr	Phe	Glu	Arg	Phe
		835					840					845			
Ser	Arg	Asn	Glu	Arg	Ala	Ser	Tyr	Glu	Ala	Thr	Val	Ile	Tyr	Val	Ala
	850					855					860				
Asp	Val	Tyr	Arg	Lys	Asn	Pro	Asp	Cys	Thr	Thr	Ala	Leu	Leu	Ile	Asn
865					870					875					880

Asn	Thr	Ser	Trp	Lys	Thr	Thr	Gly	Thr	Asn	Leu	Ser	Arg	Gln	Ala	Gly
				885					890					895	
Ile	Gly	Arg	Ala	Gly	Ile	Phe	Tyr	Ala	Phe	Ser	Pro	Asn	Leu	Glu	Val
			900					905					910		
Thr	Ser	Asn	Leu	Ser	Met	Glu	Ile	Arg	Gly	Ser	Ser	Arg	Ser	Tyr	Asn
		915					920					925			
Ala	Asp	Leu	Gly	Gly	Lys	Phe	Gln	Phe							
	930					935									

<210> 450

<211> 393

<212> PRT

<213> Chlamydia pneumoniae

<400> 450

Phe	Ile	Gln	Pro	Ser	Arg	Arg	Glu	Ile	His	Glu	Trp	Lys	Cys	Ile	Leu
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Leu	Gly	Ser	Ser	Leu	Arg	Met	Glu	Met	Met	Ser	Pro	Phe	Gln	Gln	Pro
			20				25						30		
Glu	Gln	Cys	His	Phe	Asp	Val	Val	Gly	Ser	Phe	Leu	Arg	Pro	Glu	Ser
		35					40					45			
Leu	Thr	Arg	Ala	Arg	Ser	Asp	Phe	Glu	Glu	Gly	Arg	Ile	Val	Tyr	Glu
	50					55					60				
Gln	Met	Arg	Val	Val	Glu	Asp	Ala	Ala	Ile	Arg	Asn	Leu	Ile	Lys	Lys
65					70					75				80	
Gln	Thr	Glu	Ala	Gly	Leu	Ile	Phe	Phe	Thr	Asp	Gly	Glu	Phe	Arg	Arg
				85					90					95	
Tyr	Ser	Trp	Asp	Phe	Asp	Phe	Met	Trp	Gly	Phe	His	Gly	Val	Asp	Arg
			100					105					110		
Arg	Arg	Asp	Ser	Asn	Asp	Pro	Glu	Ile	Gly	Val	Tyr	Leu	Lys	Asp	Lys
		115					120						125		
Ile	Ser	Val	Ser	Lys	His	Pro	Phe	Ile	Glu	His	Phe	Glu	Phe	Val	Lys
	130					135					140				
Thr	Phe	Glu	Lys	Gly	Asn	Ala	Lys	Ala	Lys	Gln	Thr	Ile	Pro	Ser	Pro
145					150					155					160
Ser	Gln	Phe	Phe	His	Glu	Met	Ile	Phe	Ala	Pro	Asn	Leu	Lys	Asn	Thr
				165					170					175	
Arg	Lys	Phe	Tyr	Pro	Thr	Asn	Gln	Glu	Leu	Ile	Asp	Asp	Ile	Val	Phe
			180					185					190		
Tyr	Tyr	Arg	Gln	Val	Ile	Gln	Asp	Leu	Tyr	Ala	Ala	Gly	Cys	Arg	Asn
		195					200					205			
Leu	Gln	Leu	Asp	Asp	Cys	Ala	Trp	Cys	Arg	Leu	Leu	Asp	Ile	Arg	Ala
	210					215					220				
Pro	Ser	Trp	Tyr	Gly	Val	Asp	Ser	His	Asp	Arg	Leu	Gln	Glu	Ile	Leu
225					230					235					240
Glu	Gln	Phe	Leu	Trp	Ile	His	Asn	Leu	Val	Met	Lys	Asp	Arg	Pro	Glu
				245					250					255	
Asp	Leu	Phe	Val	Ser	Leu	His	Val	Cys	Arg	Gly	Asp	Tyr	Gln	Ala	Glu
			260					265					270		
Phe	Phe	Ser	Arg	Arg	Ala	Tyr	Asp	Ser	Ile	Glu	Glu	Pro	Leu	Phe	Ala
		275					280						285		
Lys	Thr	Asp	Val	Asp	Ser	Tyr	His	Tyr	Tyr	Trp	Ala	Leu	Asp	Asp	Lys
	290						295				300				
Tyr	Ser	Gly	Gly	Ala	Glu	Pro	Leu	Ala	Tyr	Val	Ser	Gly	Glu	Lys	His
305					310					315					320
Val	Cys	Leu	Gly	Leu	Ile	Ser	Ser	Asn	His	Ser	Cys	Ile	Glu	Asp	Arg
				325					330					335	
Asp	Ala	Val	Val	Ser	Arg	Ile	Tyr	Glu	Ala	Ala	Ser	Tyr	Ile	Pro	Leu
		340						345					350		
Glu	Arg	Leu	Ser	Leu	Ser	Pro	Gln	Cys	Gly	Phe	Ala	Ser	Cys	Glu	Gly
		355					360						365		



Asp His Arg Met Thr Glu Glu Glu Gln Trp Lys Lys Ile Ala Phe Val  
 370 375 380  
 Lys Glu Ile Ala Lys Glu Ile Trp Gly  
 385 390

<210> 451  
 <211> 634  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 451  
 Glu Ala Tyr Thr Gly Phe Arg Gly Gly Gly Gly Ile Ser Phe Ser Asn  
 1 5 10 15  
 Asn Ile Val Gln Gly Thr Thr Ala Gly Asn Gly Gly Ala Ile Ser Ile  
 20 25 30  
 Leu Ala Ala Gly Glu Cys Ser Leu Ser Ala Glu Ala Gly Asp Ile Thr  
 35 40 45  
 Phe Asn Gly Asn Ala Ile Val Ala Thr Thr Pro Gln Thr Thr Lys Arg  
 50 55 60  
 Asn Ser Ile Asp Ile Gly Ser Thr Ala Lys Ile Thr Asn Leu Arg Ala  
 65 70 75 80  
 Ile Ser Gly His Ser Ile Phe Phe Tyr Asp Pro Ile Thr Ala Asn Thr  
 85 90 95  
 Ala Ala Asp Ser Thr Asp Thr Leu Asn Leu Asn Lys Ala Asp Ala Gly  
 100 105 110  
 Asn Ser Thr Asp Tyr Ser Gly Ser Ile Val Phe Ser Gly Glu Lys Leu  
 115 120 125  
 Ser Glu Asp Glu Ala Lys Val Ala Asp Asn Leu Thr Ser Thr Leu Lys  
 130 135 140  
 Gln Pro Val Thr Leu Thr Ala Gly Asn Leu Val Leu Lys Arg Gly Val  
 145 150 155 160  
 Thr Leu Asp Thr Lys Gly Phe Thr Gln Thr Ala Gly Ser Ser Val Ile  
 165 170 175  
 Met Asp Ala Gly Thr Thr Leu Lys Ala Ser Thr Glu Glu Val Thr Leu  
 180 185 190  
 Thr Gly Leu Ser Ile Pro Val Asp Ser Leu Gly Glu Gly Lys Lys Val  
 195 200 205  
 Val Ile Ala Ala Ser Ala Ala Ser Lys Asn Val Ala Leu Ser Gly Pro  
 210 215 220  
 Ile Leu Leu Leu Asp Asn Gln Gly Asn Ala Tyr Glu Asn His Asp Leu  
 225 230 235 240  
 Gly Lys Thr Gln Asp Phe Ser Phe Val Gln Leu Ser Ala Leu Gly Thr  
 245 250 255  
 Ala Thr Thr Thr Asp Val Pro Ala Val Pro Thr Val Ala Thr Pro Thr  
 260 265 270  
 His Tyr Gly Tyr Gln Gly Thr Trp Gly Met Thr Trp Val Asp Asp Thr  
 275 280 285  
 Ala Ser Thr Pro Lys Thr Lys Thr Ala Thr Leu Ala Trp Thr Asn Thr  
 290 295 300  
 Gly Tyr Leu Pro Asn Pro Glu Arg Gln Gly Pro Leu Val Pro Asn Ser  
 305 310 315 320  
 Leu Trp Gly Ser Phe Ser Asp Ile Gln Ala Ile Gln Gly Val Ile Glu  
 325 330 335  
 Arg Ser Ala Leu Thr Leu Cys Ser Asp Arg Gly Phe Trp Ala Ala Gly  
 340 345 350  
 Val Ala Asn Phe Leu Asp Lys Asp Lys Lys Gly Glu Lys Arg Lys Tyr  
 355 360 365  
 Arg His Lys Ser Gly Gly Tyr Ala Ile Gly Gly Ala Ala Gln Thr Cys  
 370 375 380  
 Ser Glu Asn Leu Ile Ser Phe Ala Phe Cys Gln Leu Phe Gly Ser Asp  
 385 390 395 400

Lys Asp Phe Leu Val Ala Lys Asn His Thr Asp Thr Tyr Ala Gly Ala  
 405 410 415  
 Phe Tyr Ile Gln His Ile Thr Glu Cys Ser Gly Phe Ile Gly Cys Leu  
 420 425 430  
 Leu Asp Lys Leu Pro Gly Ser Trp Ser His Lys Pro Leu Val Leu Glu  
 435 440 445  
 Gly Gln Leu Ala Tyr Ser His Val Ser Asn Asp Leu Lys Thr Lys Tyr  
 450 455 460  
 Thr Ala Tyr Pro Glu Val Lys Gly Ser Trp Gly Asn Asn Ala Phe Asn  
 465 470 475 480  
 Met Met Leu Gly Ala Ser Ser His Ser Tyr Pro Glu Tyr Leu His Cys  
 485 490 495  
 Phe Asp Thr Tyr Ala Pro Tyr Ile Lys Leu Asn Leu Thr Tyr Ile Arg  
 500 505 510  
 Gln Asp Ser Phe Ser Glu Lys Gly Thr Glu Gly Arg Ser Phe Asp Asp  
 515 520 525  
 Ser Asn Leu Phe Asn Leu Ser Leu Pro Ile Gly Val Lys Phe Glu Lys  
 530 535 540  
 Phe Ser Asp Cys Asn Asp Phe Ser Tyr Asp Leu Thr Leu Ser Tyr Val  
 545 550 555 560  
 Pro Asp Leu Ile Arg Asn Asp Pro Lys Cys Thr Thr Ala Leu Val Ile  
 565 570 575  
 Ser Gly Ala Ser Trp Glu Thr Tyr Ala Asn Asn Leu Ala Arg Gln Ala  
 580 585 590  
 Leu Gln Val Arg Ala Gly Ser His Tyr Ala Phe Ser Pro Met Phe Glu  
 595 600 605  
 Val Leu Gly Gln Phe Val Phe Glu Val Arg Gly Ser Ser Arg Ile Tyr  
 610 615 620  
 Asn Val Asp Leu Gly Gly Lys Phe Gln Phe  
 625 630

<210> 452

<211> 314

<212> PRT

<213> Chlamydia pneumoniae

<400> 452

Ser Gly Phe Met Lys Ser Gln Phe Ser Trp Leu Val Leu Ser Ser Thr  
 1 5 10 15  
 Leu Ala Cys Phe Thr Ser Cys Ser Thr Val Phe Ala Ala Thr Ala Glu  
 20 25 30  
 Asn Ile Gly Pro Ser Asp Ser Phe Asp Gly Ser Thr Asn Thr Gly Thr  
 35 40 45  
 Tyr Thr Pro Lys Asn Thr Thr Thr Gly Ile Asp Tyr Thr Leu Thr Gly  
 50 55 60  
 Asp Ile Thr Leu Gln Asn Leu Gly Asp Ser Ala Ala Leu Thr Lys Gly  
 65 70 75 80  
 Cys Phe Ser Asp Thr Thr Glu Ser Leu Ser Phe Ala Gly Lys Gly Tyr  
 85 90 95  
 Ser Leu Ser Phe Leu Asn Ile Lys Ser Ser Ala Glu Gly Ala Ala Leu  
 100 105 110  
 Ser Val Thr Thr Asp Lys Asn Leu Ser Leu Thr Gly Phe Ser Ser Leu  
 115 120 125  
 Thr Phe Leu Ala Ala Pro Ser Ser Val Ile Thr Thr Pro Ser Gly Lys  
 130 135 140  
 Gly Ala Val Lys Cys Gly Gly Asp Leu Thr Phe Asp Asn Asn Gly Thr  
 145 150 155 160  
 Ile Leu Phe Lys Gln Asp Tyr Cys Glu Glu Asn Gly Gly Ala Ile Ser  
 165 170 175  
 Thr Lys Asn Leu Ser Leu Lys Asn Ser Thr Gly Ser Ile Ser Phe Glu  
 180 185 190

Gly Asn Lys Ser Ser Ala Thr Gly Lys Lys Gly Gly Ala Ile Cys Ala  
 195 200 205  
 Thr Gly Thr Val Asp Ile Thr Asn Asn Thr Ala Pro Thr Leu Phe Ser  
 210 215 220  
 Asn Asn Ile Ala Glu Ala Ala Gly Gly Ala Ile Asn Ser Thr Gly Asn  
 225 230 235 240  
 Cys Thr Ile Thr Gly Asn Thr Ser Leu Val Phe Ser Glu Asn Ser Val  
 245 250 255  
 Thr Ala Thr Ala Gly Asn Gly Gly Ala Leu Ser Gly Asp Ala Asp Val  
 260 265 270  
 Thr Ile Ser Gly Asn Gln Ser Val Thr Phe Ser Gly Asn Gln Ala Val  
 275 280 285  
 Ala Asn Gly Gly Ala Ile Tyr Ala Lys Lys Leu Thr Leu Ala Ser Gly  
 290 295 300  
 Gly Gly Gly Val Ser Pro Phe Leu Thr Ile  
 305 310

<210> 453

<211> 967

<212> PRT

<213> Chlamydia pneumoniae

<400> 453

Lys Thr Gln Arg Val Lys Ile Lys Ile Leu Asp Ser Cys Phe Val Ile  
 1 5 10 15  
 Phe Asn Leu Ile Tyr Leu Phe Cys Phe Tyr Ile Asp Ala Asn Ser Ser  
 20 25 30  
 Leu Lys Asn Lys Ser Ile Thr Met Lys Thr Ser Ile Pro Trp Val Leu  
 35 40 45  
 Val Ser Ser Val Leu Ala Phe Ser Cys His Leu Gln Ser Leu Ala Asn  
 50 55 60  
 Glu Glu Leu Leu Ser Pro Asp Asp Ser Phe Asn Gly Asn Ile Asp Ser  
 65 70 75 80  
 Gly Thr Phe Thr Pro Lys Thr Ser Ala Thr Thr Tyr Ser Leu Thr Gly  
 85 90 95  
 Asp Val Phe Phe Tyr Glu Pro Gly Lys Gly Thr Pro Leu Ser Asp Ser  
 100 105 110  
 Cys Phe Lys Gln Thr Thr Asp Asn Leu Thr Phe Leu Gly Asn Gly His  
 115 120 125  
 Ser Leu Thr Phe Gly Phe Ile Asp Ala Gly Thr His Ala Gly Ala Ala  
 130 135 140  
 Ala Ser Thr Thr Ala Asn Lys Asn Leu Thr Phe Ser Gly Phe Ser Leu  
 145 150 155 160  
 Leu Ser Phe Asp Ser Ser Pro Ser Thr Thr Val Thr Thr Gly Gln Gly  
 165 170 175  
 Thr Leu Ser Ser Ala Gly Gly Val Asn Leu Glu Asn Ile Arg Lys Leu  
 180 185 190  
 Val Val Ala Gly Asn Phe Ser Thr Ala Asp Gly Gly Ala Ile Lys Gly  
 195 200 205  
 Ala Ser Phe Leu Leu Thr Gly Thr Ser Gly Asp Ala Leu Phe Ser Asn  
 210 215 220  
 Asn Ser Ser Ser Thr Lys Gly Gly Ala Ile Ala Thr Thr Ala Gly Ala  
 225 230 235 240  
 Arg Ile Ala Asn Asn Thr Gly Tyr Val Arg Phe Leu Ser Asn Ile Ala  
 245 250 255  
 Ser Thr Ser Gly Gly Ala Ile Asp Asp Glu Gly Thr Ser Ile Leu Ser  
 260 265 270  
 Asn Asn Lys Phe Leu Tyr Phe Glu Gly Asn Ala Ala Lys Thr Thr Gly  
 275 280 285  
 Gly Ala Ile Cys Asn Thr Lys Ala Ser Gly Ser Pro Glu Leu Ile Ile  
 290 295 300

Ser	Asn	Asn	Lys	Thr	Leu	Ile	Phe	Ala	Ser	Asn	Val	Ala	Glu	Thr	Ser
305					310					315					320
Gly	Gly	Ala	Ile	His	Ala	Lys	Lys	Leu	Ala	Leu	Ser	Ser	Gly	Gly	Phe
				325					330					335	
Thr	Glu	Phe	Leu	Arg	Asn	Asn	Val	Ser	Ser	Ala	Thr	Pro	Lys	Gly	Gly
			340					345					350		
Ala	Ile	Ser	Ile	Asp	Ala	Ser	Gly	Glu	Leu	Ser	Leu	Ser	Ala	Glu	Thr
		355					360					365			
Gly	Asn	Ile	Thr	Phe	Val	Arg	Asn	Thr	Leu	Thr	Thr	Thr	Gly	Ser	Thr
	370					375					380				
Asp	Thr	Pro	Lys	Arg	Asn	Ala	Ile	Asn	Ile	Gly	Ser	Asn	Gly	Lys	Phe
385					390					395					400
Thr	Glu	Leu	Arg	Ala	Ala	Lys	Asn	His	Thr	Ile	Phe	Phe	Tyr	Asp	Pro
				405					410					415	
Ile	Thr	Ser	Glu	Gly	Thr	Ser	Ser	Asp	Val	Leu	Lys	Ile	Asn	Asn	Gly
			420					425					430		
Ser	Ala	Gly	Ala	Leu	Asn	Pro	Tyr	Gln	Gly	Thr	Ile	Leu	Phe	Ser	Gly
		435					440					445			
Glu	Thr	Leu	Thr	Ala	Asp	Glu	Leu	Lys	Val	Ala	Asp	Asn	Leu	Lys	Ser
	450					455					460				
Ser	Phe	Thr	Gln	Pro	Val	Ser	Leu	Ser	Gly	Gly	Lys	Leu	Leu	Leu	Gln
465					470					475					480
Lys	Gly	Val	Thr	Leu	Glu	Ser	Thr	Ser	Phe	Ser	Gln	Glu	Ala	Gly	Ser
				485					490					495	
Leu	Leu	Gly	Met	Asp	Ser	Gly	Thr	Thr	Leu	Ser	Thr	Thr	Ala	Gly	Ser
			500					505					510		
Ile	Thr	Ile	Thr	Asn	Leu	Gly	Ile	Asn	Val	Asp	Ser	Leu	Gly	Leu	Lys
		515					520					525			
Gln	Pro	Val	Ser	Leu	Thr	Ala	Lys	Gly	Ala	Ser	Asn	Lys	Val	Ile	Val
	530					535					540				
Ser	Gly	Lys	Leu	Asn	Leu	Ile	Asp	Ile	Glu	Gly	Asn	Ile	Tyr	Glu	Ser
545					550					555					560
His	Met	Phe	Ser	His	Asp	Gln	Leu	Phe	Ser	Leu	Leu	Lys	Ile	Thr	Val
				565					570					575	
Asp	Ala	Asp	Val	Asp	Thr	Asn	Val	Asp	Ile	Ser	Ser	Leu	Ile	Pro	Val
			580					585					590		
Pro	Ala	Glu	Asp	Pro	Asn	Ser	Glu	Tyr	Gly	Phe	Gln	Gly	Gln	Trp	Asn
		595					600					605			
Val	Asn	Trp	Thr	Thr	Asp	Thr	Ala	Thr	Asn	Thr	Lys	Glu	Ala	Thr	Ala
	610					615					620				
Thr	Trp	Thr	Lys	Thr	Gly	Phe	Val	Pro	Ser	Pro	Glu	Arg	Lys	Ser	Ala
625					630						635				640
Leu	Val	Cys	Asn	Thr	Leu	Trp	Gly	Val	Phe	Thr	Asp	Ile	Arg	Ser	Leu
				645					650					655	
Gln	Gln	Leu	Val	Glu	Ile	Gly	Ala	Thr	Gly	Met	Glu	His	Lys	Gln	Gly
			660					665					670		
Phe	Trp	Val	Ser	Ser	Met	Thr	Asn	Phe	Leu	His	Lys	Thr	Gly	Asp	Glu
		675					680					685			
Asn	Arg	Lys	Gly	Phe	Arg	His	Thr	Ser	Gly	Gly	Tyr	Val	Ile	Gly	Gly
	690					695					700				
Ser	Ala	His	Thr	Pro	Lys	Asp	Asp	Leu	Phe	Thr	Phe	Ala	Phe	Cys	His
705					710					715					720
Leu	Phe	Ala	Arg	Asp	Lys	Asp	Cys	Phe	Ile	Ala	His	Asn	Asn	Ser	Arg
				725					730					735	
Thr	Tyr	Gly	Gly	Thr	Leu	Phe	Phe	Lys	His	Ser	His	Thr	Leu	Gln	Pro
			740					745					750		
Gln	Asn	Tyr	Leu	Arg	Leu	Gly	Arg	Ala	Lys	Phe	Ser	Glu	Ser	Ala	Ile
		755					760					765			
Glu	Lys	Phe	Pro	Arg	Glu	Ile	Pro	Leu	Ala	Leu	Asp	Val	Gln	Val	Ser
	770					775					780				

Phe	Ser	His	Ser	Asp	Asn	Arg	Met	Glu	Thr	His	Tyr	Thr	Ser	Leu	Pro	785	790	795	800
Glu	Ser	Glu	Gly	Ser	Trp	Ser	Asn	Glu	Cys	Ile	Ala	Gly	Gly	Ile	Gly		805	810	815
Leu	Asp	Leu	Pro	Phe	Val	Leu	Ser	Asn	Pro	His	Pro	Leu	Phe	Lys	Thr		820	825	830
Phe	Ile	Pro	Gln	Met	Lys	Val	Glu	Met	Val	Tyr	Val	Ser	Gln	Asn	Ser		835	840	845
Phe	Phe	Glu	Ser	Ser	Ser	Asp	Gly	Arg	Gly	Phe	Ser	Ile	Gly	Arg	Leu		850	855	860
Leu	Asn	Leu	Ser	Ile	Pro	Val	Gly	Ala	Lys	Phe	Val	Gln	Gly	Asp	Ile		865	870	875
Gly	Asp	Ser	Tyr	Thr	Tyr	Asp	Leu	Ser	Gly	Phe	Phe	Val	Ser	Asp	Val		885	890	895
Tyr	Arg	Asn	Asn	Pro	Gln	Ser	Thr	Ala	Thr	Leu	Val	Met	Ser	Pro	Asp		900	905	910
Ser	Trp	Lys	Ile	Arg	Gly	Gly	Asn	Leu	Ser	Arg	Gln	Ala	Phe	Leu	Leu		915	920	925
Arg	Gly	Ser	Asn	Asn	Tyr	Val	Tyr	Asn	Ser	Asn	Cys	Glu	Leu	Phe	Gly		930	935	940
His	Tyr	Ala	Met	Glu	Leu	Arg	Gly	Ser	Ser	Arg	Asn	Tyr	Asn	Val	Asp		945	950	955
Val	Gly	Thr	Lys	Leu	Arg	Phe											965		960

<210> 454

<211> 519

<212> PRT

<213> Chlamydia pneumoniae

<400> 454

Phe	Asn	Glu	Glu	Thr	Met	Thr	Ile	Leu	Arg	Asn	Phe	Leu	Thr	Cys	Ser	1	5	10	15
Ala	Leu	Phe	Leu	Ala	Leu	Pro	Ala	Ala	Gln	Val	Val	Tyr	Leu	His			20	25	30
Glu	Ser	Asp	Gly	Tyr	Asn	Gly	Ala	Ile	Asn	Asn	Lys	Ser	Leu	Glu	Pro		35	40	45
Lys	Ile	Thr	Cys	Tyr	Pro	Glu	Gly	Thr	Ser	Tyr	Ile	Phe	Leu	Asp	Asp		50	55	60
Val	Arg	Ile	Ser	Asn	Val	Lys	His	Asp	Gln	Glu	Asp	Ala	Gly	Val	Phe		65	70	75
Ile	Asn	Arg	Ser	Gly	Asn	Leu	Phe	Phe	Met	Gly	Asn	Arg	Cys	Asn	Phe		85	90	95
Thr	Phe	His	Asn	Leu	Met	Thr	Glu	Gly	Phe	Gly	Ala	Ala	Ile	Ser	Asn		100	105	110
Arg	Val	Gly	Asp	Thr	Thr	Leu	Thr	Leu	Ser	Asn	Phe	Ser	Tyr	Leu	Ala		115	120	125
Phe	Thr	Ser	Ala	Pro	Leu	Leu	Pro	Gln	Gly	Gln	Gly	Ala	Ile	Tyr	Ser		130	135	140
Leu	Gly	Ser	Val	Met	Ile	Glu	Asn	Ser	Glu	Glu	Val	Thr	Phe	Cys	Gly		145	150	155
Asn	Tyr	Ser	Ser	Trp	Ser	Gly	Ala	Ala	Ile	Tyr	Thr	Pro	Tyr	Leu	Leu		165	170	175
Gly	Ser	Lys	Ala	Ser	Arg	Pro	Ser	Val	Asn	Leu	Ser	Gly	Asn	Arg	Tyr		180	185	190
Leu	Val	Phe	Arg	Asp	Asn	Val	Ser	Gln	Gly	Tyr	Gly	Gly	Ala	Ile	Ser		195	200	205
Thr	His	Asn	Leu	Thr	Leu	Thr	Arg	Gly	Pro	Ser	Cys	Phe	Glu	Asn			210	215	220
Asn	His	Ala	Tyr	His	Asp	Val	Asn	Ser	Asn	Gly	Gly	Ala	Ile	Ala	Ile		225	230	235



Cys	Pro	Leu	Ser	Phe	Ser	Gly	Phe	Ser	Gln	Met	Ile	Phe	Asp	Asn	Cys
145					150					155					160
Glu	Ser	Leu	Thr	Ser	Asp	Thr	Ser	Ala	Ser	Asn	Val	Ile	Pro	His	Ala
				165						170					175
Ser	Ala	Ile	Tyr	Ala	Thr	Thr	Pro	Met	Leu	Phe	Thr	Asn	Asn	Asp	Ser
			180					185					190		
Ile	Leu	Phe	Gln	Tyr	Asn	Arg	Ser	Ala	Gly	Phe	Gly	Ala	Ala	Ile	Arg
		195					200					205			
Gly	Thr	Ser	Ile	Thr	Ile	Glu	Asn	Thr	Lys	Lys	Ser	Leu	Leu	Phe	Asn
	210					215					220				
Gly	Asn	Gly	Ser	Ile	Ser	Asn	Gly	Gly	Ala	Leu	Thr	Gly	Ser	Ala	Ala
225					230					235					240
Ile	Asn	Leu	Ile	Asn	Asn	Ser	Ala	Pro	Val	Ile	Phe	Ser	Thr	Asn	Ala
			245						250					255	
Thr	Gly	Ile	Tyr	Gly	Gly	Ala	Ile	Tyr	Leu	Thr	Gly	Gly	Ser	Met	Leu
		260						265						270	
Thr	Ser	Gly	Asn	Leu	Ser	Gly	Val	Leu	Phe	Val	Asn	Asn	Ser	Ser	Arg
		275					280					285			
Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Asn	Gly	Asn	Val	Thr	Phe	Ser	Asn	Asn
	290					295					300				
Ser	Asp	Leu	Thr	Phe	Gln	Asn	Asn	Thr	Ala	Ser	Pro	Gln	Asn	Ser	Leu
305				310						315					320
Pro	Ala	Pro	Thr	Pro	Pro	Pro	Thr	Pro	Pro	Ala	Val	Thr	Pro	Leu	Leu
				325					330					335	
Gly	Tyr	Gly	Gly	Ala	Ile	Phe	Cys	Thr	Pro	Pro	Ala	Thr	Pro	Pro	Pro
			340					345					350		
Thr	Gly	Val	Ser	Leu	Thr	Ile	Ser	Gly	Glu	Asn	Ser	Val	Thr	Phe	Leu
	355					360						365			
Glu	Asn	Ile	Ala	Ser	Glu	Gln	Gly	Gly	Ala	Leu	Tyr	Gly	Lys	Lys	Ile
	370					375					380				
Ser	Ile	Asp	Ser	Asn	Lys	Ser	Thr	Ile	Phe	Leu	Gly	Asn	Thr	Ala	Gly
385				390						395					400
Lys	Gly	Gly	Ala	Ile	Ala	Ile	Pro	Glu	Ser	Gly	Glu	Leu	Ser	Leu	Ser
			405						410					415	
Ala	Asn	Gln	Gly	Asp	Ile	Leu	Phe	Asn	Lys	Asn	Leu	Ser	Ile	Thr	Ser
		420						425					430		
Gly	Thr	Pro	Thr	Arg	Asn	Ser	Ile	His	Phe	Gly	Lys	Asp	Ala	Lys	Phe
	435					440						445			
Ala	Thr	Leu	Gly	Ala	Thr	Gln	Gly	Tyr	Thr	Leu	Tyr	Phe	Tyr	Asp	Pro
	450					455					460				
Ile	Thr	Ser	Asp	Asp	Leu	Ser	Ala	Ala	Ser	Ala	Ala	Ala	Thr	Val	Val
465				470						475					480
Val	Asn	Pro	Lys	Ala	Ser	Ala	Asp	Gly	Ala	Tyr	Ser	Gly	Thr	Ile	Val
			485						490					495	
Phe	Ser	Gly	Glu	Thr	Leu	Thr	Ala	Thr	Glu	Ala	Ala	Thr	Pro	Ala	Asn
		500						505					510		
Ala	Thr	Ser	Thr	Leu	Asn	Gln	Lys	Leu	Glu	Leu	Glu	Gly	Gly	Thr	Leu
	515						520					525			
Ala	Leu	Arg	Asn	Gly	Ala	Thr	Leu	Asn	Val	His	Asn	Phe	Thr	Gln	Asp
530					535					540					
Glu	Lys	Ser	Val	Val	Ile	Met	Asp	Ala	Gly	Thr	Thr	Leu	Ala	Thr	Thr
545					550					555					560
Asn	Gly	Ala	Asn	Asn	Thr	Asp	Gly	Ala	Ile	Thr	Leu	Asn	Lys	Leu	Val
			565						570					575	
Ile	Asn	Leu	Asp	Ser	Leu	Asp	Gly	Thr	Lys	Ala	Ala	Val	Val	Asn	Val
		580						585					590		
Gln	Ser	Thr	Asn	Gly	Ala	Leu	Thr	Ile	Ser	Gly	Thr	Leu	Gly	Leu	Val
		595					600					605			
Lys	Asn	Ser	Gln	Asp	Cys	Cys	Asp	Asn	His	Gly	Met	Phe	Asn	Lys	Asp
610						615					620				

Leu Gln Gln Val Pro Ile Leu Glu Leu Lys Ala Thr Ser Asn Thr Val  
 625 630 635 640  
 Thr Thr Thr Asp Phe Ser Leu Gly Thr Asn Gly Tyr Gln Gln Ser Pro  
 645 650 655  
 Tyr Gly Tyr Gln Gly Thr Trp Glu Phe Thr Ile Asp Thr Thr Thr His  
 660 665 670  
 Thr Val Thr Gly Asn Trp Lys Lys Thr Gly Tyr Leu Pro His Pro Glu  
 675 680 685  
 Arg Leu Ala Pro Leu Ile Pro Asn Ser Leu Trp Ala Asn Val Ile Asp  
 690 695 700  
 Leu Arg Ala Val Ser Gln Ala Ser Ala Ala Asp Gly Glu Asp Val Pro  
 705 710 715 720  
 Gly Lys Gln Leu Ser Ile Thr Gly Ile Thr Asn Phe Phe His Ala Asn  
 725 730 735  
 His Thr Gly Asp Ala Arg Ser Tyr Arg His Met Gly Gly Gly Tyr Leu  
 740 745 750  
 Ile Asn Thr Tyr Thr Arg Ile Thr Pro Asp Ala Ala Leu Ser Leu Gly  
 755 760 765  
 Phe Gly Gln Leu Phe Thr Lys Ser Lys Asp Tyr Leu Val Gly His Gly  
 770 775 780  
 His Ser Asn Val Tyr Phe Ala Thr Val Tyr Ser Asn Ile Thr Lys Ser  
 785 790 795 800  
 Leu Phe Gly Ser Ser Arg Phe Phe Ser Gly Gly Thr Ser Arg Val Thr  
 805 810 815  
 Tyr Ser Arg Ser Asn Glu Lys Val Lys Thr Ser Tyr Thr Lys Leu Pro  
 820 825 830  
 Lys Gly Arg Cys Ser Trp Ser Asn Cys Trp Leu Gly Glu Leu Glu  
 835 840 845  
 Gly Asn Leu Pro Ile Thr Leu Ser Ser Arg Ile Leu Asn Leu Lys Gln  
 850 855 860  
 Ile Ile Pro Phe Val Lys Ala Glu Val Ala Tyr Ala Thr His Gly Gly  
 865 870 875 880  
 Ile Gln Glu Asn Thr Pro Glu Gly Arg Ile Phe Gly His Gly His Leu  
 885 890 895  
 Leu Asn Val Ala Val Pro Val Gly Val Arg Phe Gly Lys Asn Ser His  
 900 905 910  
 Asn Arg Pro Asp Phe Tyr Thr Ile Ile Val Ala Tyr Ala Pro Asp Val  
 915 920 925  
 Tyr Arg His Asn Pro Asp Cys Asp Thr Thr Leu Pro Ile Asn Gly Ala  
 930 935 940  
 Thr Trp Thr Ser Ile Gly Asn Asn Leu Thr Arg Ser Thr Leu Leu Val  
 945 950 955 960  
 Gln Ala Ser Ser His Thr Ser Val Asn Asp Val Leu Glu Ile Phe Gly  
 965 970 975  
 His Cys Gly Cys Asp Ile Arg Arg Thr Ser Arg Gln Tyr Thr Leu Asp  
 980 985 990  
 Ile Gly Ser Lys Leu Arg Phe  
 995

<210> 456

<211> 979

<212> PRT

<213> Chlamydia pneumoniae

<400> 456

Gly Met Pro Leu Ser Phe Lys Ser Ser Ser Phe Cys Leu Leu Ala Cys  
 1 5 10 15  
 Leu Cys Ser Ala Ser Cys Ala Phe Ala Glu Thr Arg Leu Gly Gly Asn  
 20 25 30  
 Phe Val Pro Pro Ile Thr Asn Gln Gly Glu Glu Ile Leu Leu Thr Ser  
 35 40 45



Asp	Phe	Val	Cys	Ser	Asn	Phe	Leu	Gly	Ala	Ser	Phe	Ser	Ser	Ser	Phe
50						55					60				
Ile	Asn	Ser	Ser	Ser	Asn	Leu	Ser	Leu	Leu	Gly	Lys	Gly	Leu	Ser	Leu
65					70					75					80
Thr	Phe	Thr	Ser	Cys	Gln	Ala	Pro	Thr	Asn	Ser	Asn	Tyr	Ala	Leu	Leu
				85					90					95	
Ser	Ala	Ala	Glu	Thr	Leu	Thr	Phe	Lys	Asn	Phe	Ser	Ser	Ile	Asn	Phe
			100					105					110		
Thr	Gly	Asn	Gln	Ser	Thr	Gly	Leu	Gly	Gly	Leu	Ile	Tyr	Gly	Lys	Asp
		115					120					125			
Ile	Val	Phe	Gln	Ser	Ile	Lys	Asp	Leu	Ile	Phe	Thr	Thr	Asn	Arg	Val
130						135					140				
Ala	Tyr	Ser	Pro	Ala	Ser	Val	Thr	Thr	Ser	Ala	Thr	Pro	Ala	Ile	Thr
145					150					155					160
Thr	Val	Thr	Thr	Gly	Ala	Ser	Ala	Leu	Gln	Pro	Thr	Asp	Ser	Leu	Thr
				165					170					175	
Val	Glu	Asn	Ile	Ser	Gln	Ser	Ile	Lys	Phe	Phe	Gly	Asn	Leu	Ala	Asn
			180						185				190		
Phe	Gly	Ser	Ala	Ile	Ser	Ser	Ser	Pro	Thr	Ala	Val	Val	Lys	Phe	Ile
		195					200					205			
Asn	Asn	Thr	Ala	Thr	Met	Ser	Phe	Ser	His	Asn	Phe	Thr	Ser	Ser	Gly
	210					215					220				
Gly	Gly	Val	Ile	Tyr	Gly	Gly	Ser	Ser	Leu	Leu	Phe	Glu	Asn	Asn	Ser
225					230					235					240
Gly	Cys	Ile	Ile	Phe	Thr	Ala	Asn	Ser	Cys	Val	Asn	Ser	Leu	Lys	Gly
				245					250					255	
Val	Thr	Pro	Ser	Ser	Gly	Thr	Tyr	Ala	Leu	Gly	Ser	Gly	Gly	Ala	Ile
			260					265					270		
Cys	Ile	Pro	Thr	Gly	Thr	Phe	Glu	Leu	Lys	Asn	Asn	Gln	Gly	Lys	Cys
		275					280					285			
Thr	Phe	Ser	Tyr	Asn	Gly	Thr	Pro	Asn	Asp	Ala	Gly	Ala	Ile	Tyr	Ala
	290				295					300					
Glu	Thr	Cys	Asn	Ile	Val	Gly	Asn	Gln	Gly	Ala	Leu	Leu	Leu	Asp	Ser
305					310					315					320
Asn	Thr	Ala	Ala	Arg	Asn	Gly	Gly	Ala	Ile	Cys	Ala	Lys	Val	Leu	Asn
				325					330					335	
Ile	Gln	Gly	Arg	Gly	Pro	Ile	Glu	Phe	Ser	Arg	Asn	Arg	Ala	Glu	Lys
			340					345					350		
Gly	Gly	Ala	Ile	Phe	Ile	Gly	Pro	Ser	Val	Gly	Asp	Pro	Ala	Lys	Gln
		355					360					365			
Thr	Ser	Thr	Leu	Thr	Ile	Leu	Ala	Ser	Glu	Gly	Asp	Ile	Ala	Phe	Gln
	370					375					380				
Gly	Asn	Met	Leu	Asn	Thr	Lys	Pro	Gly	Ile	Arg	Asn	Ala	Ile	Thr	Val
385					390					395					400
Glu	Ala	Gly	Gly	Glu	Ile	Val	Ser	Leu	Ser	Ala	Gln	Gly	Gly	Ser	Arg
				405					410				415		
Leu	Val	Phe	Tyr	Asp	Pro	Ile	Thr	His	Ser	Leu	Pro	Thr	Thr	Ser	Pro
			420					425					430		
Ser	Asn	Lys	Asp	Ile	Thr	Ile	Asn	Ala	Asn	Gly	Ala	Ser	Gly	Ser	Val
		435					440					445			
Val	Phe	Thr	Ser	Lys	Gly	Leu	Ser	Ser	Thr	Glu	Leu	Leu	Leu	Pro	Ala
	450					455				460					
Asn	Thr	Thr	Thr	Ile	Leu	Leu	Gly	Thr	Val	Lys	Ile	Ala	Ser	Gly	Glu
465					470					475					480
Leu	Lys	Ile	Thr	Asp	Asn	Ala	Val	Val	Asn	Val	Leu	Gly	Phe	Ala	Thr
				485					490					495	
Gln	Gly	Ser	Gly	Gln	Leu	Thr	Leu	Gly	Ser	Gly	Gly	Thr	Leu	Gly	Leu
			500					505					510		
Ala	Thr	Pro	Thr	Gly	Ala	Pro	Ala	Ala	Val	Asp	Phe	Thr	Ile	Gly	Lys
			515				520						525		

Leu Ala Phe Asp Pro Phe Ser Phe Leu Lys Arg Asp Phe Val Ser Ala  
 530 535 540  
 Ser Val Asn Ala Gly Thr Lys Asn Val Thr Leu Thr Gly Ala Leu Val  
 545 550 555 560  
 Leu Asp Glu His Asp Val Thr Asp Leu Tyr Asp Met Val Ser Leu Gln  
 565 570 575  
 Ser Pro Val Ala Ile Pro Ile Ala Val Phe Lys Gly Ala Thr Val Thr  
 580 585 590  
 Lys Thr Gly Phe Pro Asp Gly Glu Ile Ala Thr Pro Ser His Tyr Gly  
 595 600 605  
 Tyr Gln Gly Lys Trp Ser Tyr Thr Trp Ser Arg Pro Leu Leu Ile Pro  
 610 615 620  
 Ala Pro Asp Gly Gly Phe Pro Gly Gly Pro Ser Pro Ser Ala Asn Thr  
 625 630 635 640  
 Leu Tyr Ala Val Trp Asn Ser Asp Thr Leu Val Arg Ser Thr Tyr Ile  
 645 650 655  
 Leu Asp Pro Glu Arg Tyr Gly Glu Ile Val Ser Asn Ser Leu Trp Ile  
 660 665 670  
 Ser Phe Leu Gly Asn Gln Ala Phe Ser Asp Ile Leu Gln Asp Val Leu  
 675 680 685  
 Leu Ile Asp His Pro Gly Leu Ser Ile Thr Ala Lys Ala Leu Gly Ala  
 690 695 700  
 Tyr Val Glu His Thr Pro Arg Gln Gly His Glu Gly Phe Ser Gly Arg  
 705 710 715 720  
 Tyr Gly Gly Tyr Gln Ala Ala Leu Ser Met Asn Tyr Thr Asp His Thr  
 725 730 735  
 Thr Leu Gly Leu Ser Phe Gly Gln Leu Tyr Gly Lys Thr Asn Ala Asn  
 740 745 750  
 Pro Tyr Asp Ser Arg Cys Ser Glu Gln Met Tyr Leu Leu Ser Phe Phe  
 755 760 765  
 Gly Gln Phe Pro Ile Val Thr Gln Lys Ser Glu Ala Leu Ile Ser Trp  
 770 775 780  
 Lys Ala Ala Tyr Gly Tyr Ser Lys Asn His Leu Asn Thr Thr Tyr Leu  
 785 790 795 800  
 Arg Pro Asp Lys Ala Pro Lys Ser Gln Gly Gln Trp His Asn Asn Ser  
 805 810 815  
 Tyr Tyr Val Leu Ile Ser Ala Glu His Pro Phe Leu Asn Trp Cys Leu  
 820 825 830  
 Leu Thr Arg Pro Leu Ala Gln Ala Trp Asp Leu Ser Gly Phe Ile Ser  
 835 840 845  
 Ala Glu Phe Leu Gly Gly Trp Gln Ser Lys Phe Thr Glu Thr Gly Asp  
 850 855 860  
 Leu Gln Arg Ser Phe Ser Arg Gly Lys Gly Tyr Asn Val Ser Leu Pro  
 865 870 875 880  
 Ile Gly Cys Ser Ser Gln Trp Phe Thr Pro Phe Lys Lys Ala Pro Ser  
 885 890 895  
 Thr Leu Thr Ile Lys Leu Ala Tyr Lys Pro Asp Ile Tyr Arg Val Asn  
 900 905 910  
 Pro His Asn Ile Val Thr Val Val Ser Asn Gln Glu Ser Thr Ser Ile  
 915 920 925  
 Ser Gly Ala Asn Leu Arg Arg His Gly Leu Phe Val Gln Ile His Asp  
 930 935 940  
 Val Val Asp Leu Thr Glu Asp Thr Gln Ala Phe Leu Asn Tyr Thr Phe  
 945 950 955 960  
 Asp Gly Lys Asn Gly Phe Thr Asn His Arg Val Ser Thr Gly Leu Lys  
 965 970 975  
 Ser Thr Phe

<210> 457  
 <211> 302  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 457  
 Arg Tyr Phe Arg Arg Val Trp Leu Arg Phe Leu Leu Leu Val Ser Tyr  
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 Asp Glu Lys Glu Lys Asp Val Val Val Val Cys Asn His Ser Glu Pro  
 20 25 30  
 Asn Ile Leu Gly Leu Pro Pro Glu Ala Val Ser Gln Leu Ile Glu Glu  
 35 40 45  
 Leu Ser Asp Glu Gly Tyr Ser Tyr Leu Asn Val Val Arg Cys Asp Leu  
 50 55 60  
 Ser Gly Glu Thr Thr Val Gln Gln Arg Leu Leu Leu Asn Ala Asp Glu  
 65 70 75 80  
 Gly Arg Ser Met Thr Val Val Ile Ser Glu Leu Pro Glu Gly His Pro  
 85 90 95  
 Asp Ile Arg Asn Leu Gln Leu Ala Ser Glu Arg Ile Phe Val Ser Arg  
 100 105 110  
 Glu Lys Glu Ala Ala Asp Ala Tyr Ala Ser Gly Cys Lys Val Val Ala  
 115 120 125  
 Phe Asp Asp Glu His Leu Pro Trp Val Ser Ser His Ile Ala Tyr Ala  
 130 135 140  
 Glu Glu Ile Arg Glu Lys Gln Glu Gln Thr Met Gln Gly Ser Leu Thr  
 145 150 155 160  
 Glu Glu Gln Leu Gly Ala Leu Leu Cys Asn Thr Val Ser Thr Glu Lys  
 165 170 175  
 Asn Leu Ala Phe Ala Leu Asp Ala Val Ile Lys Gln Ser Val Trp Arg  
 180 185 190  
 Phe Arg Asn Pro Asp Leu Phe Ala Tyr Glu Arg Glu Ala Leu Glu Ala  
 195 200 205  
 Ser Val Thr Asp Ala Leu Val Ser Tyr Val Ser Asn Leu Asp Met Ile  
 210 215 220  
 Pro Tyr Thr Ser Ser Gln Gly Ile Val Ile Glu Asp Ser Ser Ile Val  
 225 230 235 240  
 Arg Thr Ser Gln Glu His Thr Leu Ile Val Asn Cys Ala Ala Phe Asp  
 245 250 255  
 Lys Leu Ala Ser Gln Ile Glu Phe Leu Cys Pro Ser Asp Val Leu Pro  
 260 265 270  
 Ile Ser Gly Lys Asp Pro Leu Ile Ser Asp Asp Glu Asp Glu Glu Leu  
 275 280 285  
 Asn Pro Lys Val Ser Ser Ala Ala Asp Ser Lys Asp Lys Thr  
 290 295 300

<210> 458  
 <211> 414  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 458  
 Ile Pro Cys Thr Phe Glu Ser Lys Arg Lys Phe Leu Met Thr His Cys  
 1 5 10 15  
 Leu His Gly Trp Phe Ser Val Val Arg His His Phe Val Gln Ala Phe  
 20 25 30  
 Asn Phe Ser Arg Pro Leu Tyr Ser Arg Ile Thr His Phe Ala Leu Gly  
 35 40 45  
 Val Ile Lys Ala Ile Pro Ile Val Gly His Leu Val Met Gly Val Asp  
 50 55 60  
 Trp Leu Ile Ser His Cys Phe Glu Arg Gly Val Ser His Pro Gly Phe  
 65 70 75 80

Pro Ser Asp Ile Ala Pro Ile Leu Lys Val Glu Lys Ile Ala Gly Arg  
 85 90 95  
 Asp His Ile Ser Arg Ile Glu Asn Gln Leu Lys Ser Leu Arg Lys Thr  
 100 105 110  
 Ile Glu Val Glu Asp Leu Asp Lys Val His Gly Gln Tyr Gln Glu Asn  
 115 120 125  
 Pro Tyr Ala Asp Met Ala Ser Ser Glu Val Leu Lys Leu Asp Lys Gly  
 130 135 140  
 Val His Val Ser Glu Leu Gly Lys Ala Phe Ser Arg Val Arg Asn Arg  
 145 150 155 160  
 Ile Thr Arg Ser Tyr Ser Tyr Ala Pro Thr Pro Gln Leu Asp Ser Ile  
 165 170 175  
 Ala Ile Val Gly Ile Asp Leu Val Ser Pro Glu Glu Gln Glu Asn Leu  
 180 185 190  
 Val Arg Leu Ala Asn Glu Val Ile Gln Leu Tyr Pro Lys Ser Lys Thr  
 195 200 205  
 Thr Leu Tyr Leu Leu Ile Asp Phe Asn Lys Glu Trp Val Gly Asp Ile  
 210 215 220  
 Ser Ser Asp Lys Glu Lys Gln Leu Arg Ser Leu Gly Leu His Ser Glu  
 225 230 235 240  
 Val Gln Cys Leu Ser Val Leu Glu Pro Gln Gly Ala Glu Gly Glu Asp  
 245 250 255  
 Thr Lys His Phe Asp Leu Met Val Gly Cys Tyr Gly Lys Asp Ser Tyr  
 260 265 270  
 Leu Arg Glu Gly Lys Ile Leu Gln Gln Ala Leu Gly Thr Ser Leu Gly  
 275 280 285  
 Thr Val Pro Trp Val Asn Val Met His Thr Leu Pro Ser Arg Tyr Arg  
 290 295 300  
 Ser Arg Leu Ser Leu Pro Ile Asn Thr Glu Lys Asp Lys Thr Glu Leu  
 305 310 315 320  
 Tyr Lys Glu Ile Ser Arg Thr His His Gln Leu His Thr Leu Gly Met  
 325 330 335  
 Gly Leu Gly Ala Gln Asp Ser Gly Leu Leu Asp Arg Gln Arg Leu  
 340 345 350  
 His Ala Pro Leu Ser Gln Gly Ser His Cys His Ser Tyr Leu Ala Asp  
 355 360 365  
 Leu Thr His Glu Glu Leu Lys Ile Leu Leu Phe Ser Ala Phe Val Asp  
 370 375 380  
 Ala Lys Asn Ile Ser Lys Lys Glu Leu Arg Glu Val Ser Leu Asn Phe  
 385 390 395 400  
 Ala Asn Asp Thr Ser Val Glu Cys Gly Cys Ala Phe Tyr Phe  
 405 410

<210> 459

<211> 589

<212> PRT

<213> Chlamydia pneumoniae

<400> 459

Val Phe Leu Pro Ser Arg Val Met Ala Ser Cys Leu Ser Ala Trp Phe  
 1 5 10 15  
 Ser Ile Val Arg Glu His Phe Tyr Arg Ala Phe Asp Phe Ser Leu Pro  
 20 25 30  
 Phe Cys Ala Arg Ile Thr Glu Phe Val Leu Gly Val Ile Lys Gly Ile  
 35 40 45  
 Pro Val Val Gly His Ile Ile Val Gly Ile Glu Trp Leu Val Ser Arg  
 50 55 60  
 Tyr Leu Glu Ser Phe Val Thr Lys Pro Thr Phe Val Ser Asp Val Val  
 65 70 75 80  
 Ser Leu Leu Lys Thr Glu Lys Val Ala Gly Arg Asp His Ile Ala Arg  
 85 90 95

225 230 235 240

Cys Asn Gln Leu Thr Ala Gln Gln Asn Phe Ala Cys Ser  
 580 585

<210> 460  
 <211> 703  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 460  
 Tyr Phe Leu Cys Cys Tyr Leu Lys Leu Phe Val Ser Asn Phe Ile Phe  
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 Phe Val Val Met Pro Ile Pro Tyr Ile Ser Ser Trp Ile Ser Thr Val  
 20 25 30  
 Arg Gln His Phe Val Lys Ala Phe Asp Phe Ser Arg Pro Phe Cys Ser  
 35 40 45  
 Arg Val Thr Asn Phe Ala Leu Gly Val Ile Lys Ala Ile Pro Ile Val  
 50 55 60  
 Gly His Ile Val Met Gly Met Glu Trp Leu Val Ser Ser Cys Val Ala  
 65 70 75 80  
 Gly Ile Ile Thr Arg Ser Ser Phe Thr Ser Asp Val Val Gln Ile Val  
 85 90 95  
 Lys Thr Glu Lys Ala Leu Gly Arg Asp His Ile Ser Arg Val Ala Glu  
 100 105 110  
 Ile Leu Gln Arg Glu Arg Gly Thr Ile Thr Pro Glu Asn Gln Asp Lys  
 115 120 125  
 Val His Gly Lys Phe Pro Val Cys Pro Phe Gly Arg Leu Lys Ser Glu  
 130 135 140  
 Glu Thr Leu Lys Leu Lys Pro Gly Glu Arg Glu Gly Thr Leu Asp Thr  
 145 150 155 160  
 Val Phe Ser Pro Ile Arg Thr Arg Val Thr Arg Ala Tyr Leu Gln Ala  
 165 170 175  
 Pro Arg Pro Glu Ile Arg Thr Ile Ser Ile Val Gly Ser Lys Leu Lys  
 180 185 190  
 Thr Pro Gln Asp Phe Ser Gln Phe Val Ser Leu Ala Asn Glu Thr Gln  
 195 200 205  
 Arg Leu His Pro Glu Ala Leu Val Cys Leu Tyr Leu Thr Gly Leu Asn  
 210 215 220  
 Arg Glu Ser Gln Met Cys Asp Thr Thr Thr Ala Glu Lys Lys Gln Tyr  
 225 230 235 240  
 Leu His Asn Ser Gly Leu Asp Ser Arg Ile Gln Cys Lys Asp Ser Lys  
 245 250 255  
 Glu Asp Asp Ala Gly Ser Pro Glu Asn Pro Glu Leu Trp Ile Gly Tyr  
 260 265 270  
 Tyr Ser Arg Glu Gln Gln His Asn Ile Asp Gly Gln Tyr Ile Gln Gln  
 275 280 285  
 Cys Leu Gly Lys Ser Ala Asp Pro Ile Pro Trp Ile His Val Thr Glu  
 290 295 300  
 Asp Thr Lys Asp Phe Tyr Tyr Pro Pro Asn Phe Thr Ser Tyr Ser His  
 305 310 315 320  
 Thr Arg Gln Ser Thr Asp Pro Thr Ser Pro Pro Arg Leu Pro Glu Ser  
 325 330 335  
 Glu Gly Asp Lys Asp Ser Leu Tyr Gly Gln Leu Ser Arg Ser Tyr His  
 340 345 350  
 His Glu Tyr Met Leu Gly Leu Gly Leu Lys Pro Glu Asp Ala Gly Leu  
 355 360 365  
 Leu Met Asp Pro Asp Arg Ile Tyr Ala Pro Leu Ser Gln Gly His Tyr  
 370 375 380  
 Cys His Ser Tyr Leu Ala Asp Ile Glu Asn Glu Asp Leu Arg Thr Leu  
 385 390 395 400  
 Val Leu Ser Pro Phe Leu Asp Pro Gly Asn Leu Ser Ser Glu Asp Leu  
 405 410 415

Arg Pro Val Ala Phe Asn Ile Ala Arg Leu Pro Leu Glu Leu Asp Ser  
 420 425 430  
 Leu Phe Phe Arg Leu Val Ala Gly Gln Gln Glu Gly Arg Asn Ile Val  
 435 440 445  
 Thr Leu Ala His Gly Thr Pro Arg Pro Glu Asp Leu Asp Pro Asp Ser  
 450 455 460  
 Met Asn Ile Leu Thr Arg Arg Leu Gln Met Ser Gly Tyr Ser Tyr Leu  
 465 470 475 480  
 Asn Ile Phe Ser Tyr Lys Ser Arg Lys Met Ile Val Lys Glu Arg Gln  
 485 490 495  
 Phe Phe Gly Asp Arg Ser Glu Gly Lys Ser Phe Thr Leu Ile Leu Phe  
 500 505 510  
 Glu Asp Pro Ile Ser Ala Ala Asp Phe Arg Cys Leu Gln Leu Ala Ala  
 515 520 525  
 Glu Gly Met Val Ala Lys Asp Leu Pro Ser Val Ala Asp Ile Cys Ala  
 530 535 540  
 Ser Gly Cys Ser Cys Ile Gln Phe Ser Glu Met Gln Ser Pro Gln Ala  
 545 550 555 560  
 Ile Glu Tyr Arg Gln Trp Glu Ala Arg Val Glu Asp Glu Ala Gly Glu  
 565 570 575  
 Glu Ala Arg Glu Pro Val Ile Tyr Ser Gln Asp Gln Leu Ser Ser Met  
 580 585 590  
 Leu Thr Thr Gln Gln Asn Phe Val Phe Ser Leu Asp Ala Val Val Lys  
 595 600 605  
 Gln Ala Ile Trp Arg Phe Arg Ser Lys Gly Leu Leu Thr Met Glu Arg  
 610 615 620  
 Lys Ala Leu Gly Glu Glu Phe Leu Thr Ala Ile Phe Ser Tyr Leu Gly  
 625 630 635 640  
 Ser Gln Glu Arg Asn Glu Asn Met Gly Lys Arg Thr Thr Glu Glu His  
 645 650 655  
 Glu Val Val Ile Ser Phe Glu Glu Leu Asp Arg Met Val Gln Val Leu  
 660 665 670  
 Pro Ala Glu Val Pro Ala Asp Ser Gly Asn Asp Pro Thr Arg Pro Val  
 675 680 685  
 Pro Asn Pro Asp Ser Asn Pro Asp Ser Ser Gln Asn Glu Gly Ser  
 690 695 700

<210> 461

<211> 148

<212> PRT

<213> Chlamydia pneumoniae

<400> 461

Ser Thr Lys Ile Gln Met His Pro Gly Leu Arg Asn Trp Arg Thr Ser  
 1 5 10 15  
 Thr Asn Lys Leu Arg Glu Glu Gly Ser Val Ser Phe Arg Glu Tyr Phe  
 20 25 30  
 Arg Ala Tyr Met Cys Asp Lys Ile Val Ala Gln Lys Asn Phe Leu Phe  
 35 40 45  
 Thr Leu Asp Ala Val Ile Lys Gln Ala Gly Trp Arg Ser Gln Glu Lys  
 50 55 60  
 Leu Asn Leu Phe Tyr Val Glu Ser Gln Ala Leu Gly Arg Glu Ile Lys  
 65 70 75 80  
 Val Ser Leu Glu Glu Tyr Ile Gln Ser Met Val Gly Ile Leu Gly Ser  
 85 90 95  
 Gln Arg Thr Lys Lys Ser Phe Lys Phe Ser Val Asp Phe Thr Pro Leu  
 100 105 110  
 Glu Gln Ala Leu Gln Glu Arg Cys Ser Ser Asp Asp Asp Glu Asp Ala  
 115 120 125  
 Thr Ala Thr Ser Thr Ala Thr Gly Ala Thr Ala Ser Pro Thr Asp Met  
 130 135 140

His Glu Asp Glu  
145

<210> 462  
<211> 283  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 462

Val Ile Gln His Leu Leu Asn Phe Ala Leu Glu Glu Thr Pro Ser Ile  
1 5 10 15  
Ser Val Gln Tyr Gln Glu Gln Glu Lys Leu Ser Pro Cys Asp His Ser  
20 25 30  
Pro Glu Ile Gly Lys Lys Lys Arg Trp Asn Lys Leu Glu Ser Phe Ser  
35 40 45  
Thr Tyr Cys Ser Leu Phe Met Ser Val Lys Asp His Tyr Lys Leu Asn  
50 55 60  
Leu Gly Ile Gln Asn Ser Leu Ser Gly Trp Leu Leu Asp Pro Tyr Arg  
65 70 75 80  
Val Cys Ala Pro Leu Ser Ser Pro Tyr Ser Cys Pro Ser Tyr Leu Leu  
85 90 95  
Asp Leu Gln Asn Lys Glu Leu Arg Arg Ser Leu Leu Ser Thr Phe Leu  
100 105 110  
Asp Pro Lys Asn Leu Thr Ser Glu Thr Phe Arg Ser Val Ser Ile Asn  
115 120 125  
Phe Gly Asn Ser Ser Phe Gly Gln Arg Trp Ser Glu Phe Leu Ser Arg  
130 135 140  
Val Leu His Asp Glu Lys Glu Lys His Val Ala Val Val Cys Asn Asp  
145 150 155 160  
Ala Lys Leu Leu Glu Glu Gly Leu Ser Pro Glu Ala Leu Ser Leu Leu  
165 170 175  
Glu Glu Asp Leu Arg Glu Ser Gly Tyr Ser Tyr Leu Asn Ile Leu Ser  
180 185 190  
Val Ser Pro Glu Gly Val Ser Lys Val Gln Glu Arg Gln Ile Leu Arg  
195 200 205  
Arg Asp Leu Gln Gly Arg Ser Phe Thr Val Met Ile Thr Asp Leu Pro  
210 215 220  
Leu Gly Ser Glu Asp Ile Arg Ser Leu Gln Leu Ala Ser Asp Arg Ile  
225 230 235 240  
Leu Val Ser Ser Ser Leu Asp Ala Ala Asp Ala Cys Ala Ser Gly Cys  
245 250 255  
Lys Val Leu Val Tyr Glu Asn Pro Asn Ala Ser Trp Ala Gln Glu Leu  
260 265 270  
Glu Asn Phe Tyr Lys Gln Val Glu Arg Arg Arg  
275 280

<210> 463  
<211> 268  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 463

Ile Ser Ile Val Ala Cys Pro Ser Ile Ser Ser Trp Phe Thr Val Val  
1 5 10 15  
Arg Gln His Phe Val Asn Ala Phe Asp Phe Thr His Pro Val Cys Ser  
20 25 30  
Arg Ile Thr Asn Phe Ala Leu Gly Ile Ile Lys Ala Ile Pro Val Leu  
35 40 45  
Gly His Ile Val Met Gly Ile Glu Trp Leu Ile Ser Trp Ile Pro Arg  
50 55 60



His	Thr	Val	Arg	His	Gly	Met	Phe	Thr	Ser	Asp	Val	Ser	Ser	Ala	Ile
65					70					75					80
Lys	Val	Glu	Gln	Thr	Arg	Gly	His	Asn	Cys	Leu	Ala	Pro	Leu	Glu	Ala
				85					90					95	
Tyr	Leu	Ser	Ser	Leu	Arg	Val	Pro	Ile	Ser	Gln	Glu	Asp	Leu	Gly	Lys
			100					105					110		
Val	His	Gly	Arg	Thr	Pro	Glu	Asp	Pro	Phe	Val	Asp	Ile	Thr	Pro	Thr
		115					120					125			
Glu	Ile	Val	Gln	Leu	Leu	Pro	Asp	Glu	Glu	Leu	Ser	Thr	Val	Asp	Glu
		130				135					140				
Ala	Leu	Gln	Gly	Val	Arg	Ser	Arg	Leu	Thr	Tyr	Ala	Tyr	Arg	Ser	Val
145					150					155					160
Glu	Lys	Pro	Met	Ile	Gln	Asp	Leu	Ala	Leu	Val	Gly	Phe	Gly	Leu	Arg
			165						170					175	
Asp	Ser	Ala	Asp	Leu	Ile	Asn	Phe	Val	Arg	Leu	Ala	Asn	Gly	Val	Gln
			180					185					190		
Asn	His	Tyr	Pro	His	Thr	Lys	Val	Lys	Leu	Tyr	Leu	Ala	Lys	Asn	Leu
		195					200					205			
Ala	Asp	Val	Trp	Asp	Cys	Glu	Ile	Ser	Glu	Glu	Glu	Lys	Gly	Gln	Leu
	210					215					220				
Arg	Ala	Leu	Gly	Leu	Asp	Pro	Lys	Ile	Glu	Ser	Ile	Ser	Leu	Thr	Ser
225					230					235					240
Ala	Gly	Leu	Pro	Ser	Val	Pro	Glu	Val	Ala	Thr	Val	Asp	Phe	Met	Ile
			245						250					255	
Thr	Cys	Tyr	Gly	Lys	Asp	Gln	Glu	Val	Gln	Asp	Pro				
			260					265							

<210> 464

<211> 696

<212> PRT

<213> Chlamydia pneumoniae

<400> 464

Leu	Ile	Phe	Tyr	Leu	Phe	Leu	Asn	Leu	Tyr	Ile	Ala	Cys	Val	Arg	Phe
1				5					10					15	
His	Phe	Gln	Cys	Trp	Phe	Asp	Pro	Met	Ala	Cys	Tyr	Ile	Ser	Ile	Trp
			20					25					30		
Ile	Ser	Thr	Val	Lys	Gln	His	Phe	Ile	Arg	Ala	Phe	Asp	Phe	Thr	Arg
		35					40					45			
Pro	Leu	Gly	Ser	Arg	Ile	Thr	Asn	Phe	Ala	Leu	Gly	Val	Ile	Lys	Ala
	50					55					60				
Ile	Pro	Ile	Leu	Gly	Cys	Val	Val	Ile	Gly	Val	Ser	Trp	Leu	Val	Ser
65				70					75					80	
Thr	Cys	Ser	Ala	Arg	Arg	Phe	Gly	Lys	Pro	Ala	Phe	Thr	Ser	Asp	Val
			85						90				95		
Ala	Ser	Ile	Val	Lys	Ile	Glu	Lys	Thr	Arg	Gly	Tyr	Asn	Pro	Leu	Ala
			100					105					110		
Trp	Val	Glu	Gln	Tyr	Leu	Arg	Gln	Leu	Arg	Val	Arg	Leu	Pro	Glu	Gly
		115					120					125			
Asp	Leu	Gly	Lys	Ile	His	Gly	Lys	Val	Ser	Arg	Asp	Tyr	Val	Cys	Asp
	130					135					140				
Arg	Thr	Pro	Gln	Glu	Asn	Leu	Asn	Met	Val	Pro	His	Gln	Tyr	Leu	Gly
145					150					155					160
Glu	Leu	Gly	Arg	Ala	Phe	Tyr	Gly	Ile	Arg	Asn	Arg	Val	Thr	Lys	Ala
			165						170					175	
Tyr	Gln	Arg	Val	Thr	Pro	Leu	Glu	Val	Pro	Cys	Leu	Thr	Leu	Val	Gly
			180					185					190		
Phe	Asp	Ile	Leu	Asp	Pro	Glu	Asp	Gln	Val	Asn	Phe	Val	Arg	Leu	Ala
		195					200					205			
Asn	Gly	Ile	Gln	Thr	Gln	Tyr	Pro	Gln	Thr	Gln	Ile	Lys	Leu	Tyr	Leu
	210					215					220				

Ile	Ser	Ile	Gln	Lys	Ile	Trp	Asn	Gln	Cys	Asp	Gly	Thr	Ile	Ser	Gln	
225					230					235					240	
Glu	Lys	Glu	Gln	Gln	Leu	Arg	Ser	Leu	Gly	Leu	Asp	Ala	Lys	Ile	Lys	
				245					250					255		
Cys	Val	Ser	Ala	Pro	Ala	Leu	Leu	Leu	Gln	Lys	Tyr	Leu	Gln	Ser	Glu	
			260					265					270			
Asn	Leu	Pro	Ser	Cys	Asp	Leu	Leu	Ile	Asn	Tyr	Tyr	Gly	Lys	Gln	Gln	
		275					280					285				
Ser	Val	Arg	Asp	Val	Asp	Ser	Ile	Lys	Ser	Leu	Leu	Asn	Leu	Ser	Ser	
	290					295					300					
Glu	His	Ile	Pro	Ala	Ile	Ser	Val	Thr	Tyr	Arg	Pro	Asp	Asp	Pro	Phe	
305					310					315					320	
Tyr	Ser	Tyr	Tyr	Phe	Phe	Pro	Gly	Ser	Gln	Gly	Gly	Thr	Ala	Pro	Asp	
				325					330					335		
Gln	Arg	Ile	Pro	Trp	Ser	Glu	Gln	Glu	His	Leu	Gln	Thr	Tyr	Thr	Thr	
			340					345					350			
Leu	Ser	Asn	Pro	Arg	Cys	Asp	Arg	Tyr	Ala	Val	His	Leu	Gly	Met	Glu	
		355					360					365				
Asp	Phe	Ala	Ser	Gly	Val	Phe	Leu	Asp	Pro	Leu	Arg	Val	Ser	Ala	Pro	
	370					375					380					
Leu	Ser	Gly	Glu	Tyr	Ser	Cys	Pro	Ser	Tyr	Leu	Leu	Asp	Leu	Lys	Ser	
385					390					395					400	
Glu	Glu	Leu	Arg	Cys	Phe	Leu	Leu	Ser	Ala	Phe	Ile	Asp	Pro	Asn	Asn	
				405					410					415		
Ser	Gly	Gln	Gly	Asn	Pro	Arg	Pro	Met	Ser	Ile	Asn	Phe	Gly	Asn	Ser	
			420					425					430			
Pro	Leu	Gly	Gln	Arg	Trp	Ser	Glu	Phe	Leu	Ser	Arg	Val	Leu	His	Asp	
	435						440					445				
Glu	Thr	Glu	Lys	His	Val	Ala	Val	Val	Cys	Asn	Asn	Pro	Gln	Leu	Ile	
	450					455					460					
Lys	Lys	Ser	Phe	Pro	Ser	His	Ser	Leu	Ser	Leu	Leu	Glu	Asn	Glu	Leu	
465					470					475					480	
Glu	Glu	Ser	Gly	Tyr	Ser	Tyr	Leu	Asn	Ile	Val	Ser	Val	Ser	Gln	Glu	
				485					490					495		
Arg	Thr	Cys	Val	Lys	Glu	Arg	Arg	Ile	Leu	Ser	Ser	Asp	Pro	Ser	Gly	
			500					505					510			
Arg	Ser	Phe	Thr	Val	Ile	Leu	Thr	Asp	Leu	Pro	Glu	Gly	Ser	Ser	Asp	
		515					520					525				
Ile	Arg	Asn	Leu	Gln	Leu	Ala	Ser	Asp	Arg	Ile	Leu	Val	Ser	Ser	Ala	
	530					535					540					
Leu	Asp	Ala	Ala	Asp	Ala	Cys	Ala	Ser	Glu	Cys	Lys	Ile	Leu	Glu	Tyr	
545					550					555					560	
Glu	Asp	Pro	Glu	Gln	Glu	Trp	Ala	Gln	Gln	Tyr	Ala	Ser	Phe	Tyr	Arg	
				565					570					575		
Asn	Ile	Asp	Arg	Ala	Gly	Asp	Leu	Gln	Arg	Gln	Gly	Ile	Pro	Gly	Glu	
			580					585					590			
Pro	Leu	Gly	Val	Ser	Ala	Ser	Thr	Arg	Val	Val	Leu	Glu	Lys	Asp	Ile	
		595					600					605				
Val	Phe	Asn	Leu	Asn	Ala	Val	Ile	Gln	Gln	Ala	Met	Trp	Lys	Phe	Lys	
	610					615					620					
Lys	Arg	Asp	Leu	Phe	Ala	Val	Glu	Ser	Gln	Ala	Leu	Gly	Asp	Asp	Met	
625					630					635					640	
Arg	Arg	Ala	Leu	Glu	Gly	Tyr	Ile	Gly	Ser	Ser	Leu	Leu	Val	Glu	Gly	
				645					650					655		
Thr	Ile	Gln	Pro	Gln	Val	Ala	Cys	Asn	Val	Asn	Val	Ser	Phe	Ala	Thr	
			660					665					670			
Leu	Asp	Glu	Ala	Val	Cys	Ala	Ala	Cys	Asp	Ser	Ala	Gln	Asp	Ala	Pro	
		675						680					685			
Ser	Glu	Glu	Asn	Asn	Thr	Asp	Asp									
	690					695										

<210> 465  
 <211> 430  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 465

Leu	Ser	Ser	Pro	Tyr	Glu	Lys	Thr	Glu	Gln	Leu	Leu	Gly	Thr	Pro	Asn
1				5				10						15	
Cys	Arg	Thr	Pro	Arg	Val	Asn	Ile	Ser	Thr	Val	Gly	Ile	Pro	Ile	Asp
			20					25					30		
Glu	Thr	Ser	Asn	Ala	Phe	Val	Asp	Ser	Met	Met	Lys	Gln	Gly	Val	Gly
		35					40					45			
Gln	Asp	Ala	Lys	Glu	Leu	Tyr	Thr	Phe	Leu	Ser	Arg	Gly	Asn	Glu	His
	50					55					60				
Tyr	Gln	Pro	Cys	Leu	Trp	Phe	Ser	Leu	Glu	Glu	Glu	Leu	Gly	Phe	Leu
65				70					75					80	
Phe	Asp	Glu	Lys	Met	Leu	Cys	Ala	Pro	Leu	Ser	Glu	Asp	His	Tyr	Cys
			85					90					95		
His	Ser	Tyr	Leu	Val	Asp	Leu	Val	Asp	Gln	His	Leu	Lys	Asp	Leu	Ile
			100					105					110		
Leu	Ser	Met	Phe	Leu	Asp	Pro	Gln	Asn	Ile	Ser	Ala	Gly	Glu	Leu	Leu
		115					120					125			
Lys	Val	Ser	Ile	Asn	Val	Gly	Asp	Ser	Phe	Ser	Pro	Leu	Gln	Gln	Lys
	130					135					140				
Asp	Phe	Leu	Ser	Met	Val	Leu	Arg	Asp	Glu	Thr	Gly	Lys	Asn	Val	Val
145				150						155				160	
Val	Val	Phe	Lys	Gly	Val	Leu	Ser	Leu	Pro	Ala	Thr	Gln	Val	Cys	Lys
			165					170					175		
Leu	Val	Glu	Glu	Leu	Asn	Ser	Lys	Asp	Tyr	Ser	Tyr	Leu	Asn	Ile	Phe
			180					185					190		
Ser	Cys	His	Gly	Asp	Ser	Ser	Pro	Gln	Leu	Leu	Phe	Arg	Lys	Glu	Leu
		195					200					205			
Glu	Gly	Thr	Ser	Gly	Arg	Tyr	Phe	Thr	Val	Ile	Cys	Ala	Leu	Tyr	Leu
	210				215						220				
Gly	Asp	Thr	Asp	Met	Arg	Ser	Leu	Gln	Leu	Ala	Ser	Glu	Arg	Ile	Met
225				230						235				240	
Val	Ser	Arg	Glu	Phe	Asp	Leu	Val	Asp	Ala	Tyr	Ala	Ala	Arg	Cys	Lys
			245					250					255		
Leu	Leu	Lys	Ile	Asp	His	Thr	Asn	Trp	Arg	Pro	Gly	Thr	Phe	Ser	Arg
		260					265						270		
His	Ala	Asp	Phe	Ala	Asp	Ala	Val	Asp	Val	Ser	Ala	Gly	Phe	Asn	Ser
		275					280					285			
Arg	Glu	Phe	Lys	Leu	Ile	Thr	Gln	Ala	Asn	Gln	Gly	Ile	Leu	Glu	Ser
	290				295						300				
Gly	Glu	Leu	Pro	Leu	Pro	Ser	Lys	Thr	Phe	Trp	Glu	Gly	Phe	Leu	Ala
305				310						315				320	
Phe	Cys	Asp	Arg	Val	Thr	Val	Thr	Arg	His	Phe	Ile	Pro	Met	Leu	Asp
			325					330					335		
Ala	Ala	Ile	Lys	Gln	Ala	Val	Trp	Thr	His	Lys	His	Pro	Ser	Leu	Ile
		340						345					350		
Asp	Lys	Glu	Cys	Glu	Ala	Leu	Asp	Leu	Lys	Thr	Gln	Cys	Leu	Pro	Ser
		355					360				365				
Ile	Val	Ser	Tyr	Leu	Glu	Tyr	Val	Thr	Asn	Ser	His	Glu	Lys	Thr	Ser
	370				375						380				
Lys	Gly	Pro	Phe	Ile	Gln	Lys	Glu	Ile	Ile	Ala	Asp	Cys	Ser	Pro	Leu
385				390						395				400	
Lys	Glu	Ala	Leu	Phe	Pro	Gly	Ser	Asp	Glu	Asp	Val	Pro	Ser	Thr	Ser
			405					410					415		
Glu	Asp	Pro	Ser	Asp	Asp	His	Pro	Ser	Asp	Leu	Glu	Asp	Ser		
		420					425						430		

<210> 466  
 <211> 186  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 466

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Ser Leu Glu Thr Arg Gly Arg Phe Thr Glu Ile Cys Leu Gln Leu Leu
 1          5          10          15
Phe Phe Asp Ile Gln Ser Leu Lys Phe Leu Gln Leu Phe Ser Glu Gly
          20          25          30
Thr Ala Leu Asn Leu Phe Arg Ile Phe Ala Pro Leu Arg Asn Arg Val
          35          40          45
Thr Thr Glu Tyr Ser Arg Ala Arg Gln Pro Asp Leu His Arg Ile Ala
 50          55          60
Ile Val Tyr Ile Gly Val Leu Asp Ser Glu Ser Ser Lys Ile Leu Glu
65          70          75          80
Arg Leu Ile Ser Tyr Met Ser Cys Ile Tyr Ser Glu Ser Gln Met Tyr
          85          90          95
Leu Arg Phe Phe Met Gly Lys Asn Val Asn Gln Ser Ala Val Leu Ser
          100          105          110
Lys Leu His Val Glu Asn Leu His Ile Arg Cys Gly Phe Phe Ser Glu
          115          120          125
Asp Ala Val Pro Glu Ser Glu Pro Phe Asp Leu Ser Ile Tyr Val His
          130          135          140
Thr Asp Arg Ser Cys Pro Leu Pro Thr Lys Lys Arg Ser Ser Ser Trp
145          150          155          160
Glu Leu Gln Thr Val Glu Leu Pro Glu Ser Ile Tyr Pro Gln Ser Glu
          165          170          175
Phe Leu Leu Met Arg Pro Arg Met Leu Ser
          180          185

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<210> 467  
 <211> 136  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 467

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Leu Leu Glu Asn Asn Arg Phe Phe Leu Phe Phe Lys Val Lys Tyr Phe
 1          5          10          15
Leu Lys Asp Ser Phe Leu Met Ser Tyr Tyr Phe Ser Leu Trp Tyr Leu
          20          25          30
Lys Val Gln Gln His Phe Gln Ala Ala Phe Asp Phe Thr Arg Ser Leu
          35          40          45
Cys Ser Arg Ile Ser Asn Phe Ala Leu Gly Val Ile Ala Leu Leu Pro
 50          55          60
Ile Ile Gly Gln Leu Tyr Val Gly Leu Asp Trp Leu Leu Ser Arg Ile
65          70          75          80
Lys Lys Pro Glu Phe Pro Ser Asp Val Asp Gln Ile Val Arg Val Glu
          85          90          95
His Val Val Gly His Asp His Arg Ser Arg Val Glu Asp Ile Leu Lys
          100          105          110
Arg Gln Arg Leu Ser Leu Glu Pro Arg Asp Glu Gly Lys Val His Gly
          115          120          125
Asp Leu Pro Ser Ala Pro Phe Phe
130          135

```

<210> 468  
 <211> 940  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 468

Thr	Ser	Met	Arg	Phe	Phe	Cys	Phe	Gly	Met	Leu	Leu	Pro	Phe	Thr	Phe
1				5					10					15	
Val	Leu	Ala	Asn	Glu	Gly	Leu	Gln	Leu	Pro	Leu	Glu	Thr	Tyr	Ile	Thr
			20					25					30		
Leu	Ser	Pro	Glu	Tyr	Gln	Ala	Ala	Pro	Gln	Val	Gly	Phe	Thr	His	Asn
		35					40					45			
Gln	Asn	Gln	Asp	Leu	Ala	Ile	Val	Gly	Asn	His	Asn	Asp	Phe	Ile	Leu
	50					55					60				
Asp	Tyr	Lys	Tyr	Tyr	Arg	Ser	Asn	Gly	Gly	Ala	Leu	Thr	Cys	Lys	Asn
65					70					75					80
Leu	Leu	Ile	Ser	Glu	Asn	Ile	Gly	Asn	Val	Phe	Phe	Glu	Lys	Asn	Val
			85					90						95	
Cys	Pro	Asn	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Ala	Gln	Asn	Cys	Thr	Ile
		100						105					110		
Ser	Lys	Asn	Gln	Asn	Tyr	Ala	Phe	Thr	Thr	Asn	Leu	Val	Ser	Asp	Asn
		115					120					125			
Pro	Thr	Ala	Thr	Ala	Gly	Ser	Leu	Leu	Gly	Gly	Ala	Leu	Phe	Ala	Ile
	130					135					140				
Asn	Cys	Ser	Ile	Thr	Asn	Asn	Leu	Gly	Gln	Gly	Thr	Phe	Val	Asp	Asn
145					150					155					160
Leu	Ala	Leu	Asn	Lys	Gly	Gly	Ala	Leu	Tyr	Thr	Glu	Thr	Asn	Leu	Ser
			165						170					175	
Ile	Lys	Asp	Asn	Lys	Gly	Pro	Ile	Ile	Ile	Lys	Gln	Asn	Arg	Ala	Leu
		180					185						190		
Asn	Ser	Asp	Ser	Leu	Gly	Gly	Gly	Ile	Tyr	Ser	Gly	Asn	Ser	Leu	Asn
		195					200					205			
Ile	Glu	Gly	Asn	Ser	Gly	Ala	Ile	Gln	Ile	Thr	Ser	Asn	Ser	Ser	Gly
	210					215					220				
Ser	Gly	Gly	Gly	Ile	Phe	Ser	Thr	Gln	Thr	Leu	Thr	Ile	Ser	Ser	Asn
225				230						235					240
Lys	Lys	Leu	Ile	Glu	Ile	Ser	Glu	Asn	Ser	Ala	Phe	Ala	Asn	Asn	Tyr
			245						250					255	
Gly	Ser	Asn	Phe	Asn	Pro	Gly	Gly	Gly	Gly	Leu	Thr	Thr	Thr	Phe	Cys
		260						265					270		
Thr	Ile	Leu	Asn	Asn	Arg	Glu	Gly	Val	Leu	Phe	Asn	Asn	Asn	Gln	Ser
		275					280						285		
Gln	Ser	Asn	Gly	Gly	Ala	Ile	His	Ala	Lys	Ser	Ile	Ile	Ile	Lys	Glu
	290				295						300				
Asn	Gly	Pro	Val	Tyr	Phe	Leu	Asn	Asn	Thr	Ala	Thr	Arg	Gly	Gly	Ala
305					310					315					320
Leu	Leu	Asn	Leu	Ser	Ala	Gly	Ser	Gly	Asn	Gly	Ser	Phe	Ile	Leu	Ser
			325						330					335	
Ala	Asp	Asn	Gly	Asp	Ile	Ile	Phe	Asn	Asn	Asn	Thr	Ala	Ser	Lys	His
		340					345						350		
Ala	Leu	Asn	Pro	Pro	Tyr	Arg	Asn	Ala	Ile	His	Ser	Thr	Pro	Asn	Met
		355					360					365			
Asn	Leu	Gln	Ile	Gly	Ala	Arg	Pro	Gly	Tyr	Arg	Val	Leu	Phe	Tyr	Asp
	370				375						380				
Pro	Ile	Glu	His	Glu	Leu	Pro	Ser	Ser	Phe	Pro	Ile	Leu	Phe	Asn	Phe
385					390					395					400
Glu	Thr	Gly	His	Thr	Gly	Thr	Val	Leu	Phe	Ser	Gly	Glu	His	Val	His
			405						410					415	
Gln	Asn	Phe	Thr	Asp	Glu	Met	Asn	Phe	Phe	Ser	Tyr	Leu	Arg	Asn	Thr
		420						425					430		
Ser	Glu	Leu	Arg	Gln	Gly	Val	Leu	Ala	Val	Glu	Asp	Gly	Ala	Gly	Leu
		435					440					445			
Ala	Cys	Tyr	Lys	Phe	Phe	Gln	Arg	Gly	Gly	Thr	Leu	Leu	Gly	Gln	
	450					455					460				
Gly	Ala	Val	Ile	Thr	Thr	Ala	Gly	Thr	Ile	Pro	Thr	Pro	Ser	Ser	Thr
465					470					475					480

Pro	Thr	Thr	Val	Gly	Ser	Thr	Ile	Thr	Leu	Asn	His	Ile	Ala	Ile	Asp	485	490	495
Leu	Pro	Ser	Ile	Leu	Ser	Phe	Gln	Ala	Gln	Ala	Pro	Lys	Ile	Trp	Ile	500	505	510
Tyr	Pro	Thr	Lys	Thr	Gly	Ser	Thr	Tyr	Thr	Glu	Asp	Ser	Asn	Pro	Thr	515	520	525
Ile	Thr	Ile	Ser	Gly	Thr	Leu	Thr	Leu	Arg	Asn	Ser	Asn	Asn	Glu	Asp	530	535	540
Pro	Tyr	Asp	Ser	Leu	Asp	Leu	Ser	His	Ser	Leu	Glu	Lys	Val	Pro	Leu	545	550	555
Leu	Tyr	Ile	Val	Asp	Val	Ala	Ala	Gln	Lys	Ile	Asn	Ser	Ser	Gln	Leu	565	570	575
Asp	Leu	Ser	Thr	Leu	Asn	Ser	Gly	Glu	His	Tyr	Gly	Tyr	Gln	Gly	Ile	580	585	590
Trp	Ser	Thr	Tyr	Trp	Val	Glu	Thr	Thr	Thr	Ile	Thr	Asn	Pro	Thr	Ser	595	600	605
Leu	Leu	Gly	Ala	Asn	Thr	Lys	His	Lys	Leu	Leu	Tyr	Ala	Asn	Trp	Ser	610	615	620
Pro	Leu	Gly	Tyr	Arg	Pro	His	Pro	Glu	Arg	Arg	Gly	Glu	Phe	Ile	Thr	625	630	635
Asn	Ala	Leu	Trp	Gln	Ser	Ala	Tyr	Thr	Ala	Leu	Ala	Gly	Leu	His	Ser	645	650	655
Leu	Ser	Ser	Trp	Asp	Glu	Glu	Lys	Gly	His	Ala	Ala	Ser	Leu	Gln	Gly	660	665	670
Ile	Gly	Leu	Leu	Val	His	Gln	Lys	Asp	Lys	Asn	Gly	Phe	Lys	Gly	Phe	675	680	685
Arg	Ser	His	Met	Thr	Gly	Tyr	Ser	Ala	Thr	Thr	Glu	Ala	Thr	Ser	Ser	690	695	700
Gln	Ser	Pro	Asn	Phe	Ser	Leu	Gly	Phe	Ala	Gln	Phe	Phe	Ser	Lys	Ala	705	710	715
Lys	Glu	His	Glu	Ser	Gln	Asn	Ser	Thr	Ser	Ser	His	His	Tyr	Phe	Ser	725	730	735
Gly	Met	Cys	Ile	Glu	Asn	Thr	Leu	Phe	Lys	Glu	Trp	Ile	Arg	Leu	Ser	740	745	750
Val	Ser	Leu	Ala	Tyr	Met	Phe	Thr	Ser	Glu	His	Thr	His	Thr	Met	Tyr	755	760	765
Gln	Gly	Leu	Leu	Glu	Gly	Asn	Ser	Gln	Gly	Ser	Phe	His	Asn	His	Thr	770	775	780
Leu	Ala	Gly	Ala	Leu	Ser	Cys	Val	Phe	Leu	Pro	Gln	Pro	His	Gly	Glu	785	790	795
Ser	Leu	Gln	Ile	Tyr	Pro	Phe	Ile	Thr	Ala	Leu	Ala	Ile	Arg	Gly	Asn	805	810	815
Leu	Ala	Ala	Phe	Gln	Glu	Ser	Gly	Asp	His	Ala	Arg	Glu	Phe	Ser	Leu	820	825	830
His	Arg	Pro	Leu	Thr	Asp	Val	Ser	Leu	Pro	Val	Gly	Ile	Arg	Ala	Ser	835	840	845
Trp	Lys	Asn	His	His	Arg	Val	Pro	Leu	Val	Trp	Leu	Thr	Glu	Ile	Ser	850	855	860
Tyr	Arg	Ser	Thr	Leu	Tyr	Arg	Gln	Asp	Pro	Glu	Leu	His	Ser	Lys	Leu	865	870	875
Leu	Ile	Ser	Gln	Gly	Thr	Trp	Thr	Thr	Gln	Ala	Thr	Pro	Val	Thr	Tyr	885	890	895
Asn	Ala	Leu	Gly	Ile	Lys	Val	Lys	Asn	Thr	Met	Gln	Val	Phe	Pro	Lys	900	905	910
Val	Thr	Leu	Ser	Leu	Asp	Tyr	Ser	Ala	Asp	Ile	Ser	Ser	Ser	Thr	Leu	915	920	925
Ser	His	Tyr	Leu	Asn	Val	Ala	Ser	Arg	Met	Arg	Phe					930	935	940

<210> 469  
 <211> 969  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 469

Asn	Glu	Ile	Leu	Thr	Ile	Ser	Asp	Gln	Asn	Arg	Lys	Ile	Lys	Glu	Pro
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Leu	Val	Ser	Lys	Thr	Pro	Pro	Lys	Phe	Leu	Phe	Tyr	Leu	Gly	Asn	Phe
		20						25				30			
Thr	Ala	Cys	Met	Phe	Gly	Met	Thr	Pro	Ala	Val	Tyr	Ser	Leu	Gln	Thr
	35						40				45				
Asp	Ser	Leu	Glu	Lys	Phe	Ala	Leu	Glu	Arg	Asp	Glu	Glu	Phe	Arg	Thr
	50				55					60					
Ser	Phe	Pro	Leu	Leu	Asp	Ser	Leu	Ser	Thr	Leu	Thr	Gly	Phe	Ser	Pro
65				70					75					80	
Ile	Thr	Thr	Phe	Val	Gly	Asn	Arg	His	Asn	Ser	Ser	Gln	Asp	Ile	Val
			85					90					95		
Leu	Ser	Asn	Tyr	Lys	Ser	Ile	Asp	Asn	Ile	Leu	Leu	Leu	Trp	Thr	Ser
		100						105					110		
Ala	Gly	Gly	Ala	Val	Ser	Cys	Asn	Asn	Phe	Leu	Leu	Ser	Asn	Val	Glu
	115						120					125			
Asp	His	Ala	Phe	Phe	Ser	Lys	Asn	Leu	Ala	Ile	Gly	Thr	Gly	Gly	Ala
	130					135					140				
Ile	Ala	Cys	Gln	Gly	Ala	Cys	Thr	Ile	Thr	Lys	Asn	Arg	Gly	Pro	Leu
145				150					155					160	
Ile	Phe	Phe	Ser	Asn	Arg	Gly	Leu	Asn	Asn	Ala	Ser	Thr	Gly	Gly	Glu
			165					170					175		
Thr	Arg	Gly	Gly	Ala	Ile	Ala	Cys	Asn	Gly	Asp	Phe	Thr	Ile	Ser	Gln
		180						185					190		
Asn	Gln	Gly	Thr	Phe	Tyr	Phe	Val	Asn	Asn	Ser	Val	Asn	Asn	Trp	Gly
	195						200				205				
Gly	Ala	Leu	Ser	Thr	Asn	Gly	His	Cys	Arg	Ile	Gln	Ser	Asn	Arg	Ala
	210				215					220					
Pro	Leu	Leu	Phe	Phe	Asn	Asn	Thr	Ala	Pro	Ser	Gly	Gly	Gly	Ala	Leu
225				230					235					240	
Arg	Ser	Glu	Asn	Thr	Thr	Ile	Ser	Asp	Asn	Thr	Arg	Pro	Ile	Tyr	Phe
			245					250					255		
Lys	Asn	Asn	Cys	Gly	Asn	Asn	Gly	Gly	Ala	Ile	Gln	Thr	Ser	Val	Thr
		260					265					270			
Val	Ala	Ile	Lys	Asn	Asn	Ser	Gly	Ser	Val	Ile	Phe	Asn	Asn	Asn	Thr
	275					280					285				
Ala	Leu	Ser	Gly	Ser	Ile	Asn	Ser	Gly	Asn	Gly	Ser	Gly	Gly	Ala	Ile
	290				295					300					
Tyr	Thr	Thr	Asn	Leu	Ser	Ile	Asp	Asp	Asn	Pro	Gly	Thr	Ile	Leu	Phe
305				310					315					320	
Asn	Asn	Asn	Tyr	Cys	Ile	Arg	Asp	Gly	Gly	Ala	Ile	Cys	Thr	Gln	Phe
			325					330					335		
Leu	Thr	Ile	Lys	Asn	Ser	Gly	His	Val	Tyr	Phe	Thr	Asn	Asn	Gln	Gly
		340					345					350			
Asn	Trp	Gly	Gly	Ala	Leu	Met	Leu	Leu	Gln	Asp	Ser	Thr	Cys	Leu	Leu
	355					360					365				
Phe	Ala	Glu	Gln	Gly	Asn	Ile	Ala	Phe	Gln	Asn	Asn	Glu	Val	Phe	Leu
	370				375					380					
Thr	Thr	Phe	Gly	Arg	Tyr	Asn	Ala	Ile	His	Cys	Thr	Pro	Asn	Ser	Asn
385				390					395					400	
Leu	Gln	Leu	Gly	Ala	Asn	Lys	Gly	Tyr	Thr	Ala	Phe	Phe	Asp	Pro	
			405					410					415		
Ile	Glu	His	Gln	His	Pro	Thr	Thr	Asn	Pro	Leu	Ile	Phe	Asn	Pro	Asn
			420					425					430		





Gly Gly Ser Trp Asp Ile Leu Gly His Asn Tyr Val Arg Asn Ala Leu  
 915 920 925  
 Gly Tyr Lys Val His Asn Gln Thr Ala Leu Phe Arg Ser Leu Asp Leu  
 930 935 940  
 Phe Leu Asp Tyr Gln Gly Ser Val Ser Ser Ser Thr Ser Thr His His  
 945 950 955 960  
 Leu Gln Ala Gly Ser Thr Leu Lys Phe  
 965

<210> 470  
 <211> 275  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 470

Ile Tyr Lys Leu Leu Asp Asn Lys Leu Met Ile Phe Tyr Asp Lys Leu  
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 Tyr Phe His Ile Lys Val Trp Met Phe Met Arg Pro Ile Cys Leu Ser  
 20 25 30  
 Ile Leu Ser Thr Ala Leu Cys Cys Ser Leu Ser Gly Asn Glu Val Pro  
 35 40 45  
 Asn Leu Ala Ser Cys Gln Met Ser Arg Lys Asp Ile Ser Ala Phe His  
 50 55 60  
 Thr Ser Pro Ser Phe Arg Leu Asn Val Thr Pro Glu Pro Leu Val Ser  
 65 70 75 80  
 Ser Phe Arg Pro Ser Asn Leu Leu Asn Gly Phe Gly His Asp Ile Thr  
 85 90 95  
 Gln Asp Ile Thr Ile Thr Gly Asn Ser Ile Asn Ser Val Ile Asp Tyr  
 100 105 110  
 Asn Tyr His Tyr Glu Asp Gly Gly Ile Leu Ala Cys Lys Asn Leu Phe  
 115 120 125  
 Ile Ser Glu Asn Lys Gly Asn Leu Ser Phe Glu Arg Asn Ser Ser His  
 130 135 140  
 Ser Ser Gly Gly Ala Leu Tyr Ser Val Arg Glu Cys Trp Ile Ser Lys  
 145 150 155 160  
 Asn Gln Asn Tyr Ser Phe Ile Ser Asn Ala Ala Ser Leu Ala Thr Thr  
 165 170 175  
 Thr Thr Ser Gly Phe Gly Gly Ala Ile His Ala Leu Asp Ser Tyr Ile  
 180 185 190  
 Thr Asn Asn Leu Gly Glu Gly Gln Phe Leu Asp Asn Val Ser Lys Asn  
 195 200 205  
 Arg Gly Gly Ala Ile Tyr Val Gly Val Ser Leu Ser Ile Thr Asp Asn  
 210 215 220  
 Leu Gly Pro Ile Val Ile Lys Lys Asn Gln Thr Leu Glu Asp Ser Ser  
 225 230 235 240  
 Phe Gly Gly Gly Ile Phe Cys Arg Ala Val Asn Ile Glu Arg Asn Tyr  
 245 250 255  
 Gln Asn Ile Gln Ile Asn Asp Asn Ala Ser Gly Gln Gly Val Val Tyr  
 260 265 270  
 Phe Leu Pro  
 275

<210> 471  
 <211> 354  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 471

Cys Phe Arg Thr Arg Gly Gly Ile Phe Ser Ala Leu Gly Val Ile Ile  
 1 5 10 15

Ser Ser Asn Lys Glu Ile Ile Glu Ile Ser Asn His Ser Ala Ser Ser  
 20 25 30  
 Ile Asn Thr Ala Ser Gly Lys Leu Tyr Pro Gly Gly Gly Ile Met  
 35 40 45  
 Cys Thr Ser Leu Val Ile Glu Asn Asn Pro Lys Gly Leu Ile Phe Asn  
 50 55 60  
 Asn Lys Thr Ala Ala Leu Ser Gly Gly Ala Ile His Thr Arg Ser Phe  
 65 70 75 80  
 Ile Phe Gln Asn Asn Gly Pro Thr Ala Phe Ile Asn Asn Ser Ala Thr  
 85 90 95  
 Ser Gly Gly Ala Leu Ile Asn Leu Ser Gly Ile Gly Ser Thr Pro Gln  
 100 105 110  
 Asn Phe Phe Leu Ser Ala Asp Tyr Gly Asp Ile Leu Phe Asn Asn Asn  
 115 120 125  
 Thr Ile Thr Ser Ser Ser Pro Gln Pro Gly Tyr Arg Asn Ala Leu Tyr  
 130 135 140  
 Ala Ala Pro Gly Ile Asn Leu Lys Leu Gly Ala Arg Gln Gly Tyr Lys  
 145 150 155 160  
 Ile Leu Phe Tyr Asp Pro Ile Asp His Asp Gln Thr Thr Thr Asp Pro  
 165 170 175  
 Ile Val Phe Asn Tyr Glu Pro His His Leu Gly Thr Val Leu Phe Ser  
 180 185 190  
 Gly Ile Asn Val Asp Ser Asn Ala Thr Asn Pro Leu Asn Phe Leu Ser  
 195 200 205  
 Lys Phe Ser Asn Ser Ser Arg Leu Glu Arg Gly Val Leu Ala Ile Glu  
 210 215 220  
 Asp Arg Ala Ala Ile Ser Cys Lys Thr Leu Ser Gln Thr Gly Gly Ile  
 225 230 235 240  
 Leu Arg Leu Gly Asn Ala Ala Leu Ile Arg Thr Lys Gly Pro Gly Ser  
 245 250 255  
 Ser Ile Asn Phe Asn Ala Ile Ala Ile Asn Leu Pro Ser Ile Leu Gln  
 260 265 270  
 Ser Glu Ala Ser Ala Pro Lys Phe Trp Ile Tyr Pro Thr Leu Thr Gly  
 275 280 285  
 Ser Thr Tyr Ser Glu Asp Thr Ser Ser Thr Ile Thr Leu Ser Gly Pro  
 290 295 300  
 Leu Thr Phe Leu Asn Asp Glu Asn Glu Asn Pro Tyr Asp Ser Leu Asp  
 305 310 315 320  
 Leu Ser Glu Pro Arg Lys Asp Ile Pro Pro Pro Leu Pro Pro Arg Cys  
 325 330 335  
 Asp Cys Lys Lys Asn Arg Tyr Phe Glu Ser His Cys Arg Ser His Glu  
 340 345 350  
 Leu Arg

<210> 472  
 <211> 392  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 472  
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 Val Thr Ala Lys Lys Ile Asp Thr Ser Asn Leu Ile Val Glu Ala Met  
 20 25 30  
 Asn Leu Asp Glu His Tyr Gly Tyr Gln Gly Ile Trp Ser Pro Tyr Trp  
 35 40 45  
 Met Glu Thr Thr Thr Thr Ser Ser Thr Val Pro Glu Gln Thr Asn  
 50 55 60  
 Thr Asn His Arg Gln Leu Tyr Val Asp Trp Thr Pro Val Gly Tyr Arg  
 65 70 75 80

Pro	Asn	Pro	Glu	Arg	His	Gly	Glu	Phe	Ile	Ala	Asn	Thr	Leu	Trp	Gln
				85					90					95	
Ser	Ala	Tyr	Asn	Ala	Leu	Leu	Gly	Ile	Arg	Ile	Leu	Pro	Pro	Gln	Asn
			100					105					110		
Leu	Lys	Glu	His	Asp	Leu	Glu	Ala	Ser	Leu	Gln	Gly	Leu	Gly	Leu	Leu
		115					120					125			
Ile	Asn	Gln	His	Asn	Arg	Glu	Gly	Arg	Lys	Gly	Phe	Arg	Asn	His	Thr
	130					135					140				
Thr	Gly	Tyr	Ala	Ala	Thr	Thr	Ser	Ala	Lys	Thr	Ala	Ala	Arg	His	Ser
145					150					155					160
Phe	Ser	Leu	Gly	Phe	Ala	Gln	Met	Phe	Ser	Lys	Thr	Arg	Glu	Arg	Gln
				165				170						175	
Ser	Pro	Ser	Thr	Thr	Ser	Ser	His	Asn	Tyr	Phe	Ala	Gly	Leu	Arg	Phe
			180					185					190		
Asp	Ser	Leu	Leu	Phe	Arg	Asp	Phe	Ile	Ser	Thr	Gly	Leu	Ser	Leu	Gly
		195					200					205			
Tyr	Ser	Tyr	Gly	Asp	His	His	Met	Leu	Cys	His	Tyr	Thr	Glu	Ile	Leu
	210					215					220				
Lys	Gly	Ser	Ser	Lys	Ala	Phe	Phe	Asn	Asn	His	Thr	Leu	Val	Ala	Ser
225					230					235					240
Leu	Asp	Cys	Thr	Phe	Leu	Pro	Ala	Arg	Ile	Thr	Arg	Thr	Leu	Glu	Leu
				245					250					255	
Gln	Pro	Phe	Ile	Ser	Ala	Ile	Ala	Leu	Arg	Cys	Ser	Gln	Ala	Ser	Phe
			260					265					270		
Gln	Glu	Thr	Gly	Asp	His	Ile	Arg	Lys	Phe	His	Pro	Lys	His	Pro	Leu
		275					280					285			
Thr	Asp	Leu	Ser	Ser	Pro	Ile	Gly	Phe	Arg	Ser	Glu	Trp	Lys	Thr	Ser
	290					295					300				
His	His	Ile	Pro	Met	Leu	Trp	Thr	Thr	Glu	Ile	Ser	Tyr	Val	Pro	Thr
305					310					315					320
Leu	Tyr	Arg	Lys	Asn	Pro	Glu	Met	Phe	Thr	Thr	Leu	Leu	Ile	Ser	Asn
				325					330					335	
Gly	Thr	Trp	Thr	Thr	Gln	Ala	Thr	Pro	Val	Ser	Tyr	Asn	Ser	Val	Ala
			340					345					350		
Ala	Lys	Ile	Lys	Asn	Thr	Ser	Gln	Leu	Phe	Ser	Arg	Val	Thr	Leu	Ser
		355					360					365			
Leu	Asp	Tyr	Ser	Ala	Gln	Val	Ser	Ser	Ser	Thr	Val	Gly	Gln	Tyr	Leu
	370					375					380				
Lys	Ala	Glu	Ser	His	Cys	Thr	Phe								
385					390										

<210> 473

<211> 947

<212> PRT

<213> Chlamydia pneumoniae

<400> 473

Thr	Val	Gln	Asn	Asn	Arg	Ser	Leu	Ser	Lys	Ser	Ser	Phe	Phe	Val	Gly
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Ala	Leu	Ile	Leu	Gly	Lys	Thr	Thr	Ile	Leu	Leu	Asn	Ala	Thr	Pro	Leu
			20					25					30		
Ser	Asp	Tyr	Phe	Asp	Asn	Gln	Ala	Asn	Gln	Leu	Thr	Thr	Leu	Phe	Pro
		35					40					45			
Leu	Ile	Asp	Thr	Leu	Thr	Asn	Met	Thr	Pro	Tyr	Ser	His	Arg	Ala	Thr
	50					55					60				
Leu	Phe	Gly	Val	Arg	Asp	Asp	Thr	Asn	Gln	Asp	Ile	Val	Leu	Asp	His
65					70					75					80
Gln	Asn	Ser	Ile	Glu	Ser	Trp	Phe	Glu	Asn	Phe	Ser	Gln	Asp	Gly	Gly
			85						90					95	
Ala	Leu	Ser	Cys	Lys	Ser	Leu	Ala	Ile	Thr	Asn	Thr	Lys	Asn	Gln	Ile
			100					105						110	

Leu	Phe	Leu	Asn	Ser	Phe	Ala	Ile	Lys	Arg	Ala	Gly	Ala	Met	Tyr	Val
		115					120					125			
Asn	Gly	Asn	Phe	Asp	Leu	Ser	Glu	Asn	His	Gly	Ser	Ile	Ile	Phe	Ser
	130					135					140				
Gly	Asn	Leu	Ser	Phe	Pro	Asn	Ala	Ser	Asn	Phe	Ala	Asp	Thr	Cys	Thr
	145				150					155					160
Gly	Gly	Ala	Val	Leu	Cys	Ser	Lys	Asn	Val	Thr	Ile	Ser	Lys	Asn	Gln
			165						170					175	
Gly	Thr	Ala	Tyr	Phe	Ile	Asn	Asn	Lys	Ala	Lys	Ser	Ser	Gly	Gly	Ala
		180						185						190	
Ile	Gln	Ala	Ala	Ile	Ile	Asn	Ile	Lys	Asp	Asn	Thr	Gly	Pro	Cys	Leu
		195					200					205			
Phe	Phe	Asn	Asn	Ala	Ala	Gly	Gly	Thr	Ala	Gly	Gly	Ala	Leu	Phe	Ala
	210					215					220				
Asn	Ala	Cys	Arg	Ile	Glu	Asn	Asn	Ser	Gln	Pro	Ile	Tyr	Phe	Leu	Asn
	225				230					235					240
Asn	Gln	Ser	Gly	Leu	Gly	Gly	Ala	Ile	Arg	Val	His	Gln	Glu	Cys	Ile
			245						250					255	
Leu	Thr	Lys	Asn	Thr	Gly	Ser	Val	Ile	Phe	Asn	Asn	Asn	Phe	Ala	Met
			260					265						270	
Glu	Ala	Asp	Ile	Ser	Ala	Asn	His	Ser	Ser	Gly	Gly	Ala	Ile	Tyr	Cys
		275					280					285			
Ile	Ser	Cys	Ser	Ile	Lys	Asp	Asn	Pro	Gly	Ile	Ala	Ala	Phe	Asp	Asn
	290					295					300				
Asn	Thr	Ala	Ala	Arg	Asp	Gly	Gly	Ala	Ile	Cys	Thr	Gln	Ser	Leu	Thr
	305				310					315					320
Ile	Gln	Asp	Ser	Gly	Pro	Val	Tyr	Phe	Thr	Asn	Asn	Gln	Gly	Thr	Trp
			325						330					335	
Gly	Gly	Ala	Ile	Met	Leu	Arg	Gln	Asp	Gly	Ala	Cys	Thr	Leu	Phe	Ala
		340					345						350		
Asp	Gln	Gly	Asp	Ile	Ile	Phe	Tyr	Asn	Asn	Arg	His	Phe	Lys	Asp	Thr
	355						360					365			
Phe	Ser	Asn	His	Val	Ser	Val	Asn	Cys	Thr	Arg	Asn	Val	Ser	Leu	Thr
	370					375					380				
Val	Gly	Ala	Ser	Gln	Gly	His	Ser	Ala	Thr	Phe	Tyr	Asp	Pro	Ile	Leu
	385				390					395					400
Gln	Arg	Tyr	Thr	Ile	Gln	Asn	Ser	Ile	Gln	Lys	Phe	Asn	Pro	Asn	Pro
			405						410					415	
Glu	His	Leu	Gly	Thr	Ile	Leu	Phe	Ser	Ser	Thr	Tyr	Ile	Pro	Asp	Thr
		420						425					430		
Ser	Thr	Ser	Arg	Asp	Asp	Phe	Ile	Ser	His	Phe	Arg	Asn	His	Ile	Gly
		435					440					445			
Leu	Tyr	Asn	Gly	Thr	Leu	Ala	Leu	Glu	Asp	Arg	Ala	Glu	Trp	Lys	Val
	450					455					460				
Tyr	Lys	Phe	Asp	Gln	Phe	Gly	Gly	Thr	Leu	Arg	Leu	Gly	Ser	Arg	Ala
	465				470					475					480
Val	Phe	Ser	Thr	Thr	Asp	Glu	Glu	Gln	Ser	Ser	Ser	Ser	Val	Gly	Ser
			485						490					495	
Val	Ile	Asn	Ile	Asn	Asn	Leu	Ala	Ile	Asn	Leu	Pro	Ser	Ile	Leu	Gly
		500						505					510		
Asn	Arg	Val	Ala	Pro	Lys	Leu	Trp	Ile	Arg	Pro	Thr	Gly	Ser	Ser	Ala
		515					520					525			
Pro	Tyr	Ser	Glu	Asp	Asn	Asn	Pro	Ile	Ile	Asn	Leu	Ser	Gly	Pro	Leu
	530					535					540				
Ser	Leu	Leu	Asp	Asp	Glu	Asn	Leu	Asp	Pro	Tyr	Asp	Thr	Ala	Asp	Leu
	545				550					555					560
Ala	Gln	Pro	Ile	Ala	Glu	Val	Pro	Leu	Leu	Tyr	Leu	Leu	Asp	Val	Thr
			565						570					575	
Ala	Lys	His	Ile	Asn	Thr	Asp	Asn	Phe	Tyr	Pro	Glu	Gly	Leu	Asn	Thr
			580					585					590		

Thr Gln His Tyr Gly Tyr Gln Gly Val Trp Ser Pro Tyr Trp Ile Glu  
 595 600 605  
 Thr Ile Thr Thr Ser Asp Thr Ser Ser Glu Asp Thr Val Asn Thr Leu  
 610 615 620  
 His Arg Gln Leu Tyr Gly Asp Trp Thr Pro Thr Gly Tyr Lys Val Asn  
 625 630 635 640  
 Pro Glu Asn Lys Gly Asp Ile Ala Leu Ser Ala Phe Trp Gln Ser Phe  
 645 650 655  
 His Asn Leu Phe Ala Thr Leu Arg Tyr Gln Thr Gln Gln Gly Gln Ile  
 660 665 670  
 Ala Pro Thr Ala Ser Gly Glu Ala Thr Arg Leu Phe Val His Gln Asn  
 675 680 685  
 Ser Asn Asn Asp Ala Lys Gly Phe His Met Glu Ala Thr Gly Tyr Ser  
 690 695 700  
 Leu Gly Thr Thr Ser Asn Thr Ala Ser Asn His Ser Phe Gly Val Asn  
 705 710 715 720  
 Phe Ser Gln Leu Phe Ser Asn Leu Tyr Glu Ser His Ser Asp Asn Ser  
 725 730 735  
 Val Ala Ser His Thr Thr Thr Val Ala Leu Gln Ile Asn Asn Pro Trp  
 740 745 750  
 Leu Gln Glu Arg Phe Ser Thr Ser Ala Ser Leu Ala Tyr Ser Tyr Ser  
 755 760 765  
 Asn His His Ile Lys Ala Ser Gly Tyr Ser Gly Lys Ile Gln Thr Glu  
 770 775 780  
 Gly Lys Cys Tyr Ser Thr Thr Leu Gly Ala Ala Leu Ser Cys Ser Leu  
 785 790 795 800  
 Ser Leu Gln Trp Arg Ser Arg Pro Leu His Phe Thr Pro Phe Ile Gln  
 805 810 815  
 Ala Ile Ala Val Arg Ser Asn Gln Thr Ala Phe Gln Glu Ser Gly Asp  
 820 825 830  
 Lys Ala Arg Lys Phe Ser Val His Lys Pro Leu Tyr Asn Leu Thr Val  
 835 840 845  
 Pro Leu Gly Ile Gln Ser Ala Trp Glu Ser Lys Phe Arg Leu Pro Thr  
 850 855 860  
 Tyr Trp Asn Ile Glu Leu Ala Tyr Gln Pro Val Leu Tyr Gln Gln Asn  
 865 870 875 880  
 Pro Glu Ile Asn Val Ser Leu Glu Ser Ser Gly Ser Ser Trp Leu Leu  
 885 890 895  
 Ser Gly Thr Thr Leu Ala Arg Asn Ala Ile Ala Phe Lys Gly Arg Asn  
 900 905 910  
 Gln Ile Phe Ile Phe Pro Lys Leu Ser Val Phe Leu Asp Tyr Gln Gly  
 915 920 925  
 Ser Val Ser Ser Ser Thr Thr His Tyr Leu His Ala Gly Thr Thr  
 930 935 940  
 Phe Lys Phe  
 945

<210> 474

<211> 778

<212> PRT

<213> Chlamydia pneumoniae

<400> 474

Glu Val Phe Met Ala Ser Gly Ile Gly Gly Ser Ser Gly Leu Gly Lys  
 1 5 10 15  
 Ile Pro Pro Lys Asp Asn Gly Asp Arg Ser Arg Ser Pro Ser Pro Lys  
 20 25 30  
 Gly Glu Leu Gly Ser His Glu Ile Ser Leu Pro Pro Gln Glu His Gly  
 35 40 45  
 Glu Glu Gly Ala Ser Gly Ser Ser His Ile His Ser Ser Ser Ser Phe  
 50 55 60

Leu	Pro	Glu	Asp	Gln	Glu	Ser	Gln	Ser	Ser	Ser	Ser	Ala	Ala	Ser	Ser	65	70	75	80
Pro	Gly	Phe	Phe	Ser	Arg	Val	Arg	Ser	Gly	Val	Asp	Arg	Ala	Leu	Lys				
				85					90					95					
Ser	Phe	Gly	Asn	Phe	Phe	Ser	Ala	Glu	Ser	Thr	Ser	Gln	Ala	Arg	Glu				
			100					105					110						
Thr	Arg	Gln	Ala	Phe	Val	Arg	Leu	Ser	Lys	Thr	Ile	Thr	Ala	Asp	Glu				
			115					120					125						
Arg	Arg	Asp	Val	Asp	Ser	Ser	Ser	Ala	Ala	Ala	Thr	Glu	Ala	Arg	Val				
			130				135					140							
Ala	Glu	Asp	Ala	Ser	Val	Ser	Gly	Glu	Asn	Pro	Ser	Gln	Gly	Val	Pro				
145					150					155					160				
Glu	Thr	Ser	Ser	Gly	Pro	Glu	Pro	Gln	Arg	Leu	Phe	Ser	Leu	Pro	Ser				
				165					170					175					
Val	Lys	Lys	Gln	Ser	Gly	Leu	Gly	Arg	Leu	Val	Gln	Thr	Val	Arg	Asp				
			180					185					190						
Arg	Ile	Val	Leu	Pro	Ser	Gly	Ala	Pro	Pro	Thr	Asp	Ser	Glu	Pro	Leu				
			195					200					205						
Ser	Leu	Tyr	Glu	Leu	Asn	Leu	Arg	Leu	Ser	Ser	Leu	Arg	Gln	Glu	Leu				
			210			215					220								
Ser	Asp	Ile	Gln	Ser	Asn	Asp	Gln	Leu	Thr	Pro	Glu	Glu	Lys	Ala	Glu				
225					230					235					240				
Ala	Thr	Val	Thr	Ile	Gln	Gln	Leu	Ile	Gln	Ile	Thr	Glu	Phe	Gln	Cys				
				245					250					255					
Gly	Tyr	Met	Glu	Ala	Thr	Gln	Ser	Ser	Val	Ser	Leu	Ala	Glu	Ala	Arg				
			260					265					270						
Phe	Lys	Gly	Val	Glu	Thr	Ser	Asp	Glu	Ile	Asn	Ser	Leu	Cys	Ser	Glu				
			275				280					285							
Leu	Thr	Asp	Pro	Glu	Leu	Gln	Glu	Leu	Met	Ser	Asp	Gly	Asp	Ser	Leu				
			290			295					300								
Gln	Asn	Leu	Leu	Asp	Glu	Thr	Ala	Asp	Asp	Leu	Glu	Ala	Ala	Leu	Ser				
305					310					315					320				
His	Thr	Arg	Leu	Ser	Phe	Ser	Leu	Asp	Asp	Asn	Pro	Thr	Pro	Ile	Asp				
				325					330					335					
Asn	Asn	Pro	Thr	Leu	Ile	Ser	Gln	Glu	Glu	Pro	Ile	Tyr	Glu	Glu	Ile				
			340					345					350						
Gly	Gly	Ala	Ala	Asp	Pro	Gln	Arg	Thr	Arg	Glu	Asn	Trp	Ser	Thr	Arg				
			355				360					365							
Leu	Trp	Asn	Gln	Ile	Arg	Glu	Ala	Leu	Val	Ser	Leu	Leu	Gly	Met	Ile				
			370			375					380								
Leu	Ser	Ile	Leu	Gly	Ser	Ile	Leu	His	Arg	Leu	Arg	Ile	Ala	Arg	His				
385					390					395					400				
Ala	Ala	Ala	Glu	Ala	Val	Gly	Arg	Cys	Cys	Thr	Cys	Arg	Gly	Glu	Glu				
				405					410					415					
Cys	Thr	Ser	Ser	Glu	Glu	Asp	Ser	Met	Ser	Val	Gly	Ser	Pro	Ser	Glu				
			420					425					430						
Ile	Asp	Glu	Thr	Glu	Arg	Thr	Gly	Ser	Pro	His	Asp	Val	Pro	Arg	Arg				
			435				440					445							
Asn	Gly	Ser	Pro	Arg	Glu	Asp	Ser	Pro	Leu	Met	Asn	Ala	Leu	Val	Gly				
			450			455					460								
Trp	Ala	His	Lys	His	Gly	Ala	Lys	Thr	Lys	Glu	Ser	Ser	Glu	Ser	Ser				
465					470					475					480				
Thr	Pro	Glu	Ile	Ser	Ile	Ser	Ala	Pro	Ile	Val	Arg	Gly	Trp	Ser	Gln				
				485					490					495					
Asp	Ser	Ser	Val	Ser	Phe	Ile	Val	Met	Glu	Asp	Asp	His	Ile	Phe	Tyr				
			500					505					510						
Asp	Val	Pro	Arg	Arg	Lys	Asp	Gly	Ile	Tyr	Asp	Val	Pro	Ser	Ser	Pro				
			515				520					525							
Arg	Trp	Ser	Pro	Ala	Arg	Glu	Leu	Glu	Glu	Asp	Val	Phe	Gly	Asp	Tyr				
			530			535					540								

Glu	Val	Pro	Ile	Thr	Ser	Ala	Glu	Pro	Ser	Lys	Asp	Lys	Asn	Ile	Tyr
545					550					555					560
Met	Thr	Pro	Arg	Leu	Ala	Thr	Pro	Ala	Ile	Tyr	Asp	Leu	Pro	Ser	Arg
				565						570					575
Pro	Gly	Ser	Ser	Gly	Ser	Ser	Arg	Ser	Pro	Ser	Ser	Asp	Arg	Val	Arg
			580					585					590		
Ser	Ser	Ser	Pro	Asn	Arg	Arg	Gly	Val	Pro	Leu	Pro	Pro	Val	Pro	Ser
		595					600					605			
Pro	Ala	Met	Ser	Glu	Glu	Gly	Ser	Ile	Tyr	Glu	Asp	Met	Ser	Gly	Ala
	610					615					620				
Ser	Gly	Ala	Gly	Glu	Ser	Asp	Tyr	Glu	Asp	Met	Ser	Arg	Ser	Pro	Ser
625				630						635					640
Pro	Arg	Gly	Asp	Leu	Asp	Glu	Pro	Ile	Tyr	Ala	Asn	Thr	Pro	Glu	Asp
				645					650						655
Asn	Pro	Phe	Thr	Gln	Arg	Asn	Ile	Asp	Arg	Ile	Leu	Gln	Glu	Arg	Ser
			660					665					670		
Gly	Gly	Ala	Ser	Ala	Ser	Pro	Val	Glu	Pro	Ile	Tyr	Asp	Glu	Ile	Pro
		675					680					685			
Trp	Ile	His	Gly	Arg	Pro	Pro	Ala	Thr	Leu	Pro	Arg	Pro	Glu	Asn	Thr
	690					695					700				
Leu	Thr	Asn	Val	Ser	Leu	Arg	Val	Ser	Pro	Gly	Phe	Gly	Pro	Glu	Val
705					710					715					720
Arg	Ala	Ala	Leu	Leu	Ser	Glu	Ser	Val	Ser	Ala	Val	Met	Val	Glu	Ala
				725					730						735
Glu	Ser	Ile	Val	Pro	Pro	Thr	Glu	Pro	Gly	Asp	Gly	Glu	Ser	Glu	Tyr
			740					745					750		
Leu	Glu	Pro	Leu	Gly	Gly	Leu	Val	Ala	Thr	Thr	Lys	Ile	Leu	Leu	Gln
		755					760					765			
Lys	Gly	Trp	Pro	Arg	Gly	Glu	Ser	Asn	Ala						
	770					775									

<210> 475

<211> 511

<212> PRT

<213> Chlamydia pneumoniae

<400> 475

Gly	Ser	Ile	Met	Ala	Val	Gly	Gly	Val	Gly	Gly	Ser	Arg	Ser	Pro	Ser
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Pro	Ile	Pro	Pro	Asn	Arg	Arg	Asn	Ser	Glu	Asp	Gly	Lys	Val	Ser	Pro
			20					25					30		
Lys	Asp	Asn	Leu	Gly	Glu	His	Thr	Val	Ser	Ser	Ser	Asp	Ser	Ser	Leu
		35					40					45			
Ala	Ser	Gln	Gly	Pro	Thr	Ile	Glu	Glu	Arg	Lys	Ala	Gln	Leu	Gly	Gly
		50				55					60				
Thr	Asp	Lys	Ile	Pro	Leu	Pro	Ser	Val	Lys	Glu	Pro	Gly	Asp	Ser	Gln
65					70					75					80
Thr	Ser	Gly	Arg	Ser	Gly	Val	Leu	Gln	Arg	Ile	Trp	Lys	Gly	Val	Lys
			85						90					95	
Gly	Val	Phe	Lys	Lys	Thr	Pro	Gln	Ala	Arg	Pro	Glu	Val	Ser	Ser	Pro
			100					105					110		
Arg	Leu	Pro	Ser	His	Val	Gln	His	Gly	Gln	Arg	Leu	Pro	Gly	Leu	Glu
			115					120					125		
Gly	Phe	Arg	Asp	Arg	Ile	Gln	Lys	Arg	Ser	Glu	Asn	Pro	Glu	Ala	Asp
	130					135					140				
Leu	Gly	Lys	Met	Lys	Arg	Ser	Tyr	Ser	Asp	Gly	Asp	Leu	Asp	Arg	Val
145					150					155					160
Gly	His	Asp	Ser	Asn	Glu	Asp	Ser	Thr	Glu	Asp	Ser	Arg	Ser	Glu	Gly
				165					170					175	
Gly	Glu	Pro	Ser	Ser	Lys	Ser	Ser	Ser	Phe	Leu	Ser	Gly	Val	Arg	Gly
				180				185					190		

Ala	Val	Ser	Lys	Val	His	Gly	Ala	Leu	Gly	Asp	Ile	Lys	Gly	Lys	Phe
	195						200					205			
Gln	Arg	Ser	Ala	Ser	Glu	Asp	Asp	Leu	Thr	Thr	Gln	Gly	Glu	Asp	Ser
	210					215					220				
Ala	Gly	Asp	Thr	Val	Lys	Glu	Arg	Arg	Ser	Glu	Glu	Ala	Glu	Ala	Ser
225					230					235					240
Ser	Lys	Ser	Ser	Ser	Phe	Leu	Ser	Gly	Val	Arg	Gly	Ala	Thr	Ser	Thr
				245					250					255	
Val	Gln	Gly	Ala	Leu	Gly	Asp	Ala	Lys	Glu	Lys	Val	Ser	Ala	Phe	Gly
			260					265					270		
Glu	Gln	Ala	Ala	Gly	Ala	Ile	Arg	Ser	Ala	Pro	Gly	Asn	Ile	Arg	Thr
		275					280					285			
Arg	Phe	Gln	Arg	Ser	Ser	Ser	Glu	Gly	Asp	Leu	Ser	Asn	Val	Asn	Lys
	290					295					300				
Ala	Ala	Lys	His	Leu	Arg	Lys	Ala	Leu	Glu	Asn	Leu	Glu	Lys	Val	Ala
305					310					315					320
Pro	Glu	Gln	Val	Ser	Pro	Glu	Val	Ala	Ser	Arg	Val	Gln	Ser	Leu	Leu
				325						330				335	
Ala	Arg	Met	Glu	Gln	Leu	Thr	His	Gln	Glu	Pro	Pro	Thr	Val	Glu	Asp
			340					345					350		
Leu	Ile	Thr	Phe	Val	Glu	Ser	Asn	Val	Gly	Ser	Asp	Ser	Val	Glu	Tyr
		355					360					365			
Ala	Ser	Ile	Val	Pro	Gln	Asp	Gly	Ser	Gln	Ala	Pro	Ala	Glu	Thr	Ala
	370					375					380				
Glu	Ala	Pro	Glu	Thr	Gly	Gly	Val	Glu	Gly	Ser	Ala	Ala	Gln	Gly	Ala
385					390					395					400
Trp	Lys	Ala	Leu	Arg	Asp	Phe	Val	Val	Ser	Ile	Phe	Gln	Ala	Val	Ala
			405						410				415		
Ser	Phe	Phe	Arg	Ala	Ile	Ala	Ser	Arg	Leu	Ser	Ser	Ala	Arg	Arg	Glu
			420					425					430		
Ser	Ala	Val	Asp	Asp	Leu	Ala	Ser	Glu	Ser	Asn	Thr	Gln	Trp	Phe	Val
		435					440					445			
Glu	Gln	Glu	Gly	Val	Ser	Asn	Pro	Ser	Ala	Ala	Pro	Ser	Leu	Ser	Phe
	450					455					460				
Ala	Glu	Glu	Ile	Ala	Arg	Arg	Ala	Ala	Glu	Met	Ser	Asn	Arg	Asn	Ala
465					470					475					480
Gln	Ser	Leu	Glu	Lys	Leu	Glu	Ser	Gly	Asn	Val	Thr	Asp	Pro	Val	Ile
				485					490					495	
Gln	Gln	Gly	Leu	Gly	Leu	Ala	Arg	Ser	Phe	Ala	Pro	Glu	Gly	Gln	
			500					505					510		

<210> 476

<211> 598

<212> PRT

<213> Chlamydia pneumoniae

<400> 476

Leu	Lys	Ile	Ile	Ile	Ser	Ile	Ser	Phe	Met	Ser	Thr	Ser	Pro	Ile	Ser
1				5					10					15	
Asn	Asp	Pro	Arg	Tyr	Leu	Ser	Leu	Ser	Asn	Ala	Thr	Glu	Lys	Thr	Ser
			20					25					30		
Leu	Leu	Ala	Asn	Ser	Arg	Ser	Leu	Ser	Pro	Val	Pro	Asn	Ser	Leu	Val
		35					40					45			
Pro	Ser	Asn	Pro	Glu	Asp	Thr	Gly	Leu	Arg	Lys	Ser	Ile	Phe	Thr	His
	50					55					60				
Ser	Val	Thr	Leu	Phe	Ala	Gly	Leu	Val	Val	Leu	Leu	Val	Ala	Val	Ser
65					70					75					80
Val	Val	Val	Val	Ala	Leu	Thr	Val	Leu	Ala	Pro	Gly	Val	Pro	Gln	Ala
				85					90					95	
Ile	Leu	Leu	Gly	Ile	Ala	Ile	Ser	Gly	Val	Gly	Ile	Gly	Gly	Phe	Ser
			100					105					110		



Ile	Met	Lys	Ser	Leu	Val	Tyr	Met	Val	Arg	Asp	Tyr	Met	Ser	Pro	Arg	115	120	125
Met	Gln	Glu	Ser	Ser	Arg	Ile	Lys	Ser	Ala	Leu	Ala	Val	Gly	Thr	Gly	130	135	140
Phe	Thr	Val	Met	Gly	Leu	Val	Met	Lys	Val	Gly	Ala	Asn	Phe	Val	Pro	145	150	155
Gly	Gly	Tyr	Gly	Gly	Leu	Val	Gly	Ser	Leu	Gly	Ser	Ser	Ala	Tyr	Ser	165	170	175
Arg	Gly	Ser	Gln	Thr	Thr	Leu	Ala	Ser	Phe	Ser	His	Tyr	Ile	Tyr	Thr	180	185	190
Lys	Phe	Phe	Arg	Ser	Glu	Lys	Val	Ala	Lys	Gly	Glu	Lys	Leu	Thr	Glu	195	200	205
Ala	Glu	Thr	Ile	Lys	Glu	Ala	Lys	Lys	Leu	His	Tyr	Ile	Thr	Leu	Ser	210	215	220
Ile	Ala	Thr	Ile	Gly	Val	Gly	Leu	Ala	Val	Leu	Gly	Ile	Leu	Leu	Ala	225	230	235
Ile	Ala	Gly	Thr	Val	Leu	Leu	Gly	Gly	Ala	Pro	Ala	Thr	Ile	Ala	Ile	245	250	255
Ile	Leu	Ala	Pro	Pro	Leu	Ile	Ser	Ile	Gly	Leu	Thr	Thr	Val	Leu	Gln	260	265	270
Thr	Ile	Leu	His	Ser	Ser	Ile	Gly	Lys	Trp	Arg	Ala	Phe	Leu	Leu	Thr	275	280	285
Gln	Glu	Lys	Lys	Asp	Leu	Phe	Val	Asp	Thr	Ser	Leu	Lys	Asp	Ile	Arg	290	295	300
Leu	Glu	Lys	Leu	Pro	Pro	Ser	Glu	Val	Glu	Glu	Ser	Glu	Thr	Ser	Gln	305	310	315
Ser	Val	Ile	Glu	Val	Pro	Asp	Ser	Glu	Gly	Ile	Ala	Glu	Thr	Arg	Ile	325	330	335
Ser	Ala	Glu	Glu	Ile	Asp	Thr	Arg	Leu	Ser	Leu	Thr	Thr	Arg	Gln	Lys	340	345	350
Val	Ile	Phe	Ala	Leu	Ala	Thr	Leu	Leu	Leu	Leu	Ala	Ser	Ile	Ala	Ala	355	360	365
Phe	Ile	Val	Thr	Gly	Phe	Gly	Gly	Leu	Thr	Val	Met	Gln	Val	Leu	Leu	370	375	380
Val	Ala	Ser	Val	Gly	Ser	Ala	Val	Ala	Ser	Val	Thr	Leu	Pro	Met	Val	385	390	395
Ser	Ser	Gly	Phe	Ser	Tyr	Val	Ala	Tyr	Gln	Leu	Lys	Ala	Arg	Leu	Asn	405	410	415
Ile	Ser	Lys	Leu	Arg	Trp	Lys	Glu	Ala	Lys	Asn	Lys	Lys	Arg	Val	Arg	420	425	430
Gln	Phe	Leu	Ile	Glu	Ser	Gly	Val	Ile	Ala	Ser	Asp	Arg	Glu	Phe	Asn	435	440	445
Gln	Met	Trp	Lys	Thr	Val	Tyr	Lys	Lys	Gln	Ile	Gln	Lys	Thr	Asp	Ala	450	455	460
Ala	Ile	Arg	Glu	Glu	Val	Arg	Asn	Phe	Glu	Lys	Gly	Gly	Glu	Val	Asn	465	470	475
Ser	Ala	Leu	Val	Gly	Gly	Ile	Leu	Leu	Gly	Val	Gly	Thr	Gly	Ile	Met	485	490	495
Leu	Leu	Ala	Leu	Val	Pro	Ala	Phe	Ala	Pro	Ile	Val	Pro	Gly	Ile	Leu	500	505	510
Ala	Leu	Gly	Gly	Ser	Thr	Leu	Gly	Ile	Ala	Gly	Ser	Ile	Leu	Met	Arg	515	520	525
Lys	Phe	Val	Asn	Trp	Leu	Tyr	Asp	Glu	Leu	Val	Lys	Leu	Tyr	Glu	Arg	530	535	540
Arg	Arg	Asn	Arg	Arg	Glu	Leu	Leu	Tyr	Gly	Pro	Glu	Ser	Lys	Met	Arg	545	550	555
Ser	Ile	Ala	Thr	Asp	Leu	Val	Val	Glu	Ala	Leu	Ala	Ala	Ser	His	Asp	565	570	575
His	Leu	Phe	Asp	Leu	Asp	Gly	Pro	Val	Asp	Phe	Ile	Asp	Val	Asp	Val	580	585	590

Asp Ile Asp Gly Ala Ala  
595

<210> 477

<211> 722

<212> PRT

<213> Chlamydia pneumoniae

<400> 477

Pro	Ser	Met	Val	Asp	Lys	Leu	Ile	His	Pro	Trp	Asp	Leu	Asp	Leu	Leu
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Val	Ser	Gly	Arg	Gln	Lys	Asp	Pro	His	Lys	Leu	Leu	Gly	Ile	Leu	Ala
		20					25					30			
Ser	Glu	Asp	Ser	Ser	Asp	His	Ile	Val	Ile	Phe	Arg	Pro	Gly	Ala	His
	35					40					45				
Thr	Val	Ala	Ile	Glu	Leu	Leu	Gly	Glu	Leu	His	His	Ala	Val	Ala	Tyr
	50				55				60						
Arg	Ser	Gly	Leu	Phe	Phe	Leu	Ser	Val	Pro	Lys	Gly	Ile	Gly	His	Gly
65				70					75					80	
Asp	Tyr	Arg	Val	Tyr	His	Gln	Asn	Gly	Leu	Leu	Ala	His	Asp	Pro	Tyr
		85						90					95		
Ala	Phe	Pro	Pro	Leu	Trp	Gly	Glu	Ile	Asp	Ser	Phe	Leu	Phe	His	Arg
		100					105					110			
Gly	Thr	His	Tyr	Arg	Ile	Tyr	Glu	Arg	Met	Gly	Ala	Ile	Pro	Met	Glu
	115					120						125			
Val	Gln	Gly	Ile	Ser	Gly	Val	Leu	Phe	Val	Leu	Trp	Ala	Pro	His	Ala
	130					135					140				
Gln	Arg	Val	Ser	Val	Val	Gly	Asp	Phe	Asn	Phe	Trp	His	Gly	Leu	Val
145					150				155					160	
Asn	Pro	Leu	Arg	Lys	Ile	Ser	Asp	Gln	Gly	Ile	Trp	Glu	Leu	Phe	Val
		165						170					175		
Pro	Gly	Leu	Gly	Glu	Gly	Ile	Arg	Tyr	Lys	Trp	Glu	Ile	Val	Thr	Gln
	180						185						190		
Ser	Gly	Asn	Val	Ile	Val	Lys	Thr	Asp	Pro	Tyr	Gly	Lys	Ser	Phe	Asp
	195					200					205				
Pro	Pro	Pro	Gln	Gly	Thr	Ala	Arg	Val	Ala	Asp	Ser	Glu	Ser	Tyr	Ser
	210				215					220					
Trp	Ser	Asp	His	Arg	Trp	Met	Glu	Arg	Arg	Ser	Lys	Gln	Ser	Glu	Gly
225				230					235					240	
Pro	Val	Thr	Ile	Tyr	Glu	Val	His	Leu	Gly	Ser	Trp	Gln	Trp	Gln	Glu
		245						250					255		
Gly	Arg	Pro	Leu	Ser	Tyr	Ser	Glu	Met	Ala	His	Arg	Leu	Ala	Ser	Tyr
	260						265					270			
Cys	Lys	Glu	Met	His	Tyr	Thr	His	Val	Glu	Leu	Leu	Pro	Ile	Thr	Glu
	275					280						285			
His	Pro	Leu	Asn	Glu	Ser	Trp	Gly	Tyr	Gln	Val	Thr	Gly	Tyr	Tyr	Ala
	290				295						300				
Pro	Thr	Ser	Arg	Tyr	Gly	Thr	Leu	Gln	Glu	Phe	Gln	Tyr	Phe	Val	Asp
305				310					315					320	
Tyr	Leu	His	Lys	Glu	Asn	Ile	Gly	Ile	Ile	Leu	Asp	Trp	Val	Pro	Gly
		325						330					335		
His	Phe	Pro	Val	Asp	Ala	Phe	Ala	Leu	Ala	Ser	Phe	Asp	Gly	Glu	Pro
	340						345					350			
Leu	Tyr	Glu	Tyr	Thr	Gly	His	Ser	Gln	Ala	Leu	His	Pro	His	Trp	Asn
	355					360						365			
Thr	Phe	Thr	Phe	Asp	Tyr	Ser	Arg	His	Glu	Val	Thr	Asn	Phe	Leu	Leu
	370				375						380				
Gly	Ser	Ala	Leu	Phe	Trp	Leu	Asp	Lys	Met	His	Ile	Asp	Gly	Leu	Arg
385				390					395					400	
Val	Asp	Ala	Val	Ala	Ser	Met	Leu	Tyr	Arg	Asp	Tyr	Gly	Arg	Glu	Asp
		405						410					415		

Gly	Glu	Trp	Thr	Pro	Asn	Ile	Tyr	Gly	Gly	Lys	Glu	Asn	Leu	Glu	Ser
			420					425					430		
Ile	Glu	Phe	Leu	Lys	His	Leu	Asn	Ser	Val	Ile	His	Lys	Glu	Phe	Ser
		435					440					445			
Gly	Val	Leu	Thr	Phe	Ala	Glu	Glu	Ser	Thr	Ala	Phe	Pro	Gly	Val	Thr
	450					455					460				
Lys	Asp	Val	Asp	Gln	Gly	Gly	Leu	Gly	Phe	Asp	Tyr	Lys	Trp	Asn	Leu
465					470					475					480
Gly	Trp	Met	His	Asp	Thr	Phe	His	Tyr	Phe	Met	Lys	Asp	Pro	Met	Tyr
			485						490						495
Arg	Lys	Tyr	His	Gln	Lys	Asp	Leu	Thr	Phe	Ser	Leu	Trp	Tyr	Ala	Phe
			500					505					510		
Gln	Glu	Ser	Phe	Ile	Leu	Pro	Leu	Ser	His	Asp	Glu	Val	Val	His	Gly
		515					520					525			
Lys	Gly	Ser	Leu	Val	Asn	Lys	Leu	Pro	Gly	Asp	Thr	Trp	Thr	Arg	Phe
	530					535					540				
Ala	Gln	Met	Arg	Val	Leu	Leu	Ser	Tyr	Gln	Ile	Cys	Leu	Pro	Gly	Lys
545					550					555					560
Lys	Leu	Leu	Phe	Met	Gly	Gly	Glu	Phe	Gly	Gln	Tyr	Gly	Glu	Trp	Ser
			565						570					575	
Pro	Asp	Arg	Pro	Leu	Asp	Trp	Glu	Leu	Leu	Asn	His	His	Tyr	His	Lys
			580					585						590	
Thr	Leu	Arg	Asn	Cys	Val	Ser	Ala	Leu	Asn	Ala	Leu	Tyr	Ile	His	Gln
		595					600					605			
Pro	Tyr	Leu	Trp	Met	Gln	Glu	Ser	Ser	Gln	Glu	Cys	Phe	His	Trp	Val
	610					615					620				
Asp	Phe	His	Asp	Ile	Glu	Asn	Asn	Val	Ile	Ala	Tyr	Tyr	Arg	Phe	Ala
625					630					635					640
Gly	Ser	Asn	Arg	Ser	Ser	Ala	Leu	Leu	Cys	Val	His	His	Phe	Ser	Ala
			645						650					655	
Ser	Thr	Phe	Pro	Ser	Tyr	Val	Leu	Arg	Cys	Glu	Gly	Val	Lys	His	Cys
			660					665					670		
Glu	Leu	Leu	Leu	Asn	Thr	Asp	Asp	Glu	Ser	Phe	Gly	Gly	Ser	Gly	Lys
		675					680					685			
Gly	Asn	Arg	Ala	Pro	Val	Val	Cys	Gln	Asp	Gln	Gly	Val	Ala	Trp	Gly
	690					695				700					
Leu	Asp	Ile	Glu	Leu	Pro	Pro	Leu	Ala	Thr	Val	Ile	Tyr	Leu	Val	Thr
705					710					715					720
Phe	Phe														

<210> 478

<211> 340

<212> PRT

<213> Chlamydia pneumoniae

<400> 478

Gly	Arg	Gly	Arg	Arg	Ala	Asp	Trp	Gly	Asp	Cys	Met	Ile	Asp	Ile	Met
1				5					10					15	
Gln	His	Phe	Lys	Pro	Tyr	Thr	Met	Val	Pro	Gly	Gln	Lys	Leu	Pro	Ile
			20					25					30		
Pro	Gly	Ser	Leu	Leu	Tyr	Ala	Gln	Val	Phe	Pro	Thr	Leu	Trp	Arg	Leu
		35					40					45			
Phe	Ser	Ser	Lys	His	Glu	Ile	Leu	Asn	Glu	Gln	Thr	Leu	Gln	Val	Gln
	50					55					60				
Gly	Pro	Leu	Lys	Arg	Phe	Ala	Val	Phe	Gln	Asp	Leu	His	Arg	Gly	Gly
65					70					75					80
Leu	Ala	Val	Thr	Ser	Glu	Arg	Tyr	Lys	Tyr	Tyr	Leu	Leu	Pro	Ser	Gly
			85						90					95	
Glu	Cys	Thr	Gln	Ser	Ile	Lys	Gly	Lys	Leu	Pro	Ser	Ala	Ala	Gln	Ala
			100					105						110	

Gly	Pro	Leu	Leu	Ser	Leu	Gly	Val	His	Lys	His	Ala	Asp	Trp	Gln	Lys
		115					120					125			
Val	Arg	Cys	Arg	Arg	Asp	Leu	Lys	Glu	Ile	Leu	Pro	Leu	Trp	Phe	Arg
	130					135					140				
Phe	Ala	Ala	Met	Ala	Pro	Lys	Gly	Ser	Tyr	Arg	Asp	Leu	Glu	Thr	Thr
145					150					155					160
Ala	Ile	Gly	Ser	Leu	Val	Lys	Thr	Ala	His	Gln	Arg	Val	Leu	His	Arg
				165					170					175	
Glu	Thr	Thr	Glu	Ile	Ala	Pro	Ala	Leu	Leu	Ser	Ile	Ala	Leu	Ala	Gly
			180					185					190		
Phe	Ser	Glu	Cys	Phe	Leu	Pro	Arg	Ser	Tyr	Asp	Glu	Glu	Phe	Gln	Gly
		195					200				205				
Ile	Leu	Pro	Gln	Asp	Gly	Asp	Pro	Glu	Gly	Gly	Val	Pro	Phe	Glu	Leu
	210					215					220				
Leu	Ser	Tyr	Ser	Phe	Gly	Met	Ile	Gln	Asp	Ile	Phe	Leu	Arg	His	Gln
225					230					235					240
Gly	Gln	Leu	Val	Glu	Ile	Leu	Pro	Ala	Leu	Pro	Pro	Glu	Phe	Pro	Cys
			245						250					255	
Gly	Arg	Leu	Ile	His	Val	Ala	Leu	Pro	Asn	Leu	Gly	Thr	Leu	Ser	Ile
		260						265					270		
Val	Trp	Thr	Lys	Lys	Thr	Ile	Arg	Gln	Val	Glu	Leu	His	Ala	Glu	Tyr
		275					280					285			
Ser	Gly	Glu	Val	Phe	Leu	Lys	Phe	Cys	Ser	Ser	Leu	Cys	Ser	Ala	Arg
	290					295					300				
Leu	Arg	Glu	Trp	Ser	Glu	Arg	Arg	Leu	Ser	Gly	Ser	Lys	Arg	Leu	Ser
305					310					315					320
Leu	Gly	Glu	Thr	Leu	Glu	Ile	Lys	Ala	Gly	Thr	Thr	Tyr	Leu	Trp	Asp
			325						330					335	
Cys	Phe	His	Lys												
			340												

<210> 479

<211> 423

<212> PRT

<213> Chlamydia pneumoniae

<400> 479

Arg	Tyr	Met	Thr	Val	Ala	Glu	Val	Lys	Gly	Thr	Phe	Lys	Leu	Val	Cys
1				5					10					15	
Leu	Gly	Cys	Arg	Val	Asn	Gln	Tyr	Glu	Val	Gln	Ala	Tyr	Arg	Asp	Gln
		20						25					30		
Leu	Thr	Ile	Leu	Gly	Tyr	Gln	Glu	Val	Leu	Asp	Ser	Glu	Ile	Pro	Ala
	35					40						45			
Asp	Leu	Cys	Ile	Ile	Asn	Thr	Cys	Ala	Val	Thr	Ala	Ser	Ala	Glu	Ser
	50				55					60					
Ser	Gly	Arg	His	Ala	Val	Arg	Gln	Leu	Cys	Arg	Gln	Asn	Pro	Thr	Ala
65				70						75				80	
His	Ile	Val	Val	Thr	Gly	Cys	Leu	Gly	Glu	Ser	Asp	Lys	Glu	Phe	Phe
			85					90					95		
Ala	Ser	Leu	Asp	Arg	Gln	Cys	Thr	Leu	Val	Ser	Asn	Lys	Glu	Lys	Ser
		100						105					110		
Arg	Leu	Ile	Glu	Lys	Ile	Phe	Ser	Tyr	Asp	Thr	Thr	Phe	Pro	Glu	Phe
	115						120					125			
Lys	Ile	His	Ser	Phe	Glu	Gly	Lys	Ser	Arg	Ala	Phe	Ile	Lys	Val	Gln
	130					135					140				
Asp	Gly	Cys	Asn	Ser	Phe	Cys	Ser	Tyr	Cys	Ile	Ile	Pro	Tyr	Leu	Arg
145					150					155					160
Gly	Arg	Ser	Val	Ser	Arg	Pro	Ala	Glu	Lys	Ile	Leu	Ala	Glu	Ile	Ala
			165						170					175	
Gly	Val	Val	Asp	Gln	Gly	Tyr	Arg	Glu	Val	Val	Ile	Ala	Gly	Ile	Asn
		180						185					190		

Val	Gly	Asp	Tyr	Cys	Asp	Gly	Glu	Arg	Ser	Leu	Ala	Ser	Leu	Ile	Glu
		195					200					205			
Gln	Val	Asp	Arg	Ile	Pro	Gly	Ile	Glu	Arg	Ile	Arg	Ile	Ser	Ser	Ile
	210					215					220				
Asp	Pro	Asp	Asp	Ile	Thr	Glu	Asp	Leu	His	Arg	Ala	Ile	Thr	Ser	Ser
225					230					235					240
Arg	His	Thr	Cys	Pro	Ser	Ser	His	Leu	Val	Leu	Gln	Ser	Gly	Ser	Asn
				245					250					255	
Ser	Ile	Leu	Lys	Arg	Met	Asn	Arg	Lys	Tyr	Ser	Arg	Gly	Asp	Phe	Leu
			260					265					270		
Asp	Cys	Val	Glu	Lys	Phe	Arg	Ala	Ser	Asp	Pro	Arg	Tyr	Ala	Phe	Thr
		275					280					285			
Thr	Asp	Val	Ile	Val	Gly	Phe	Pro	Gly	Glu	Ser	Asp	Gln	Asp	Phe	Glu
	290					295					300				
Asp	Thr	Leu	Arg	Ile	Ile	Glu	Asp	Val	Gly	Phe	Ile	Lys	Val	His	Ser
305					310					315					320
Phe	Pro	Phe	Ser	Ala	Arg	Arg	Arg	Thr	Lys	Ala	Tyr	Thr	Phe	Asp	Asn
				325					330					335	
Gln	Ile	Pro	Asn	Gln	Val	Ile	Tyr	Glu	Arg	Lys	Lys	Tyr	Leu	Ala	Glu
			340					345					350		
Val	Ala	Lys	Arg	Val	Gly	Gln	Lys	Glu	Met	Met	Lys	Arg	Leu	Gly	Glu
		355					360					365			
Thr	Thr	Glu	Val	Leu	Val	Glu	Lys	Val	Thr	Gly	Gln	Val	Ala	Thr	Gly
	370					375					380				
His	Ser	Pro	Tyr	Phe	Glu	Lys	Val	Ser	Phe	Pro	Val	Val	Gly	Thr	Val
385					390					395					400
Ala	Ile	Asn	Thr	Leu	Val	Ser	Val	Arg	Leu	Asp	Arg	Val	Glu	Glu	Glu
				405					410					415	
Gly	Leu	Ile	Gly	Glu	Ile	Val									
			420												

<210> 480

<211> 477

<212> PRT

<213> Chlamydia pneumoniae

<400> 480

Trp	His	Gly	Gly	Pro	Leu	Asp	Thr	Ile	Asp	Thr	Pro	Gly	Glu	Gln	Gly
1				5					10					15	
Ser	Gln	Ser	Phe	Gly	Asn	Ser	Leu	Gly	Ala	Arg	Phe	Asp	Leu	Pro	Arg
			20					25					30		
Lys	Glu	Gln	Asp	Pro	Ser	Gln	Ala	Leu	Ala	Val	Ala	Ser	Tyr	Gln	Asn
	35					40						45			
Lys	Thr	Asp	Ser	Gln	Val	Val	Glu	Glu	His	Leu	Asp	Glu	Leu	Ile	Ser
	50					55					60				
Leu	Ala	Asp	Ser	Cys	Gly	Ile	Ser	Val	Leu	Glu	Thr	Arg	Ser	Trp	Ile
65					70					75					80
Leu	Lys	Thr	Pro	Ser	Ala	Ser	Thr	Tyr	Ile	Asn	Val	Gly	Lys	Leu	Glu
				85					90					95	
Glu	Ile	Glu	Glu	Ile	Leu	Lys	Glu	Phe	Pro	Ser	Ile	Gly	Thr	Leu	Ile
		100						105					110		
Ile	Asp	Glu	Glu	Ile	Thr	Pro	Ser	Gln	Gln	Arg	Asn	Leu	Glu	Lys	Arg
	115						120					125			
Leu	Gly	Leu	Val	Val	Leu	Asp	Arg	Thr	Glu	Leu	Ile	Leu	Glu	Ile	Phe
	130					135					140				
Ser	Ser	Arg	Ala	Leu	Thr	Ala	Glu	Ala	Asn	Ile	Gln	Val	Gln	Leu	Ala
145					150					155					160
Gln	Ala	Arg	Tyr	Leu	Leu	Pro	Arg	Leu	Lys	Arg	Leu	Trp	Gly	His	Leu
				165					170					175	
Ser	Arg	Gln	Lys	Ser	Gly	Gly	Gly	Ser	Gly	Gly	Phe	Val	Lys	Gly	Glu
			180					185					190		

Gly Glu Lys Gln Ile Glu Leu Asp Arg Arg Met Val Arg Glu Arg Ile  
 195 200 205  
 His Lys Leu Ser Ala Gln Leu Lys Ala Val Ile Lys Gln Arg Ala Glu  
 210 215 220  
 Arg Arg Lys Val Lys Ser Arg Arg Gly Ile Pro Thr Phe Ala Leu Ile  
 225 230 235 240  
 Gly Tyr Thr Asn Ser Gly Lys Ser Thr Leu Leu Asn Leu Leu Thr Ala  
 245 250 255  
 Ala Asp Thr Tyr Val Glu Asp Lys Leu Phe Ala Thr Leu Asp Pro Lys  
 260 265 270  
 Thr Arg Lys Cys Val Leu Pro Gly Gly Arg His Val Leu Leu Thr Asp  
 275 280 285  
 Thr Val Gly Phe Ile Arg Lys Leu Pro His Thr Leu Val Ala Ala Phe  
 290 295 300  
 Lys Ser Thr Leu Glu Ala Ala Phe His Glu Asp Val Leu Leu His Val  
 305 310 315 320  
 Val Asp Ala Ser His Pro Leu Ala Leu Glu His Val Gln Thr Thr Tyr  
 325 330 335  
 Asp Leu Phe Gln Glu Leu Lys Ile Glu Lys Pro Arg Ile Ile Thr Val  
 340 345 350  
 Leu Asn Lys Val Asp Arg Leu Pro Gln Gly Ser Ile Pro Met Lys Leu  
 355 360 365  
 Arg Leu Leu Ser Pro Leu Pro Val Leu Ile Ser Ala Lys Thr Gly Glu  
 370 375 380  
 Gly Ile Gln Asn Leu Leu Ser Leu Met Thr Glu Ile Ile Gln Glu Lys  
 385 390 395 400  
 Ser Leu His Val Thr Leu Asn Phe Pro Tyr Thr Glu Tyr Gly Lys Phe  
 405 410 415  
 Thr Glu Leu Cys Asp Ala Gly Val Val Ala Ser Ser Arg Tyr Gln Glu  
 420 425 430  
 Asp Phe Leu Val Val Glu Ala Tyr Leu Pro Lys Glu Leu Gln Lys Lys  
 435 440 445  
 Phe Arg Pro Phe Ile Ser Tyr Val Phe Pro Glu Asp Cys Gly Asp Asp  
 450 455 460  
 Glu Gly Arg Gly Pro Val Leu Glu Ser Ser Phe Gly Asp  
 465 470 475

<210> 481

<211> 273

<212> PRT

<213> Chlamydia pneumoniae

<400> 481

Ala Ile Gly Met Val Arg Asp Ile Gln Ser Glu Ser Ile Gly Lys Leu  
 1 5 10 15  
 Val Phe Leu Gly Thr Gly Asn Pro Glu Gly Ile Pro Val Pro Phe Cys  
 20 25 30  
 Ser Cys Arg Val Cys Gln Asn Thr Gly Ile His Arg Leu Arg Ser Ser  
 35 40 45  
 Val Leu Ile Gln Tyr Gln Asn Lys Thr Leu Val Ile Asp Ala Gly Pro  
 50 55 60  
 Asp Phe Arg Thr Gln Met Leu Val Ala Gly Val Ser Glu Leu Asp Gly  
 65 70 75 80  
 Val Phe Leu Thr His Pro His Tyr Asp His Ile Gly Gly Ile Asp Asp  
 85 90 95  
 Leu Arg Ala Trp Tyr Ile Val Thr Gln Arg Ser Leu Pro Leu Val Leu  
 100 105 110  
 Ser Ala Ser Thr Tyr Arg Phe Leu Asn Lys Ala Lys Glu Tyr Leu Phe  
 115 120 125  
 Ala Thr Pro Asn Val Glu Ser Ser Leu Pro Ala Val Leu Glu Phe Thr  
 130 135 140

Ile Leu Asn Glu Asp Cys Gly Gln Glu Glu Phe Gln Gly Ile Pro Tyr  
 145 150 155 160  
 Thr Tyr Val Ser Tyr Gln Lys Ser Cys His Val Thr Gly Phe Arg  
 165 170 175  
 Phe Gly Asn Leu Ala Tyr Leu Thr Asp Leu Cys Ser Tyr Asp Ala Lys  
 180 185 190  
 Ile Phe Ser Tyr Leu Asp Asn Val Glu Thr Leu Ile Leu Ser Ala Gly  
 195 200 205  
 Pro Ser Glu Thr Pro Ile Pro Phe Gln Gly His Lys Ser Ser His Leu  
 210 215 220  
 Thr Val Glu Glu Ala Lys Ala Phe Ala Asn His Ala Gly Ile Lys Asn  
 225 230 235 240  
 Leu Ile Ile Thr His Ile Ser His Cys Leu Glu Ala Glu Arg Asp Gln  
 245 250 255  
 His Pro Glu Val Thr Phe Ala Tyr Asp Gly Met Glu Val Leu Trp Thr  
 260 265 270  
 Leu

<210> 482  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 482  
 Ser Asp Glu Arg Ile Ser Trp Gly Ile Ser Gly Arg Leu Gly Glu Phe  
 1 5 10 15  
 Val Ser Lys Lys Glu Gln Asp Cys Met Leu Gly Ser Leu Pro Cys Tyr  
 20 25 30  
 Pro Gly Ala Gly Asn Ile Glu Glu Tyr Lys Asn Arg Tyr Phe Tyr Cys  
 35 40 45  
 Gln Leu Cys Ala Glu Val Val Ser Pro Tyr Val Val Pro Val Ile Val  
 50 55 60  
 Val Asp Val Gln Gly Ala Pro Pro Thr Gly Ile Leu Gln Val Leu Arg  
 65 70 75 80  
 Cys Lys Gln His Lys Phe Gln Gly Leu Pro Val His Gly Pro Ile Thr  
 85 90 95  
 Ser Leu Trp Ala Leu Glu Pro Val Gly Lys Gly Ala Pro Gln Leu Glu  
 100 105 110  
 Ser Ala Met Tyr Glu Leu Cys Ser Gln Val Arg Asn Phe Asp Ile Cys  
 115 120 125  
 Ser Ile Val Ser Trp Val Phe Gly Gly Leu Cys Ile Phe Ala Gly Leu  
 130 135 140  
 Ile Val Gly Val Met Val Glu Ala Pro Leu Ile Ala Gly Leu Ser Ala  
 145 150 155 160  
 Trp Val Ile Pro Cys Ile Ile Gly Gly Val Gly Ala Ile Leu Cys Leu  
 165 170 175  
 Phe Ala Ile Leu Met Ala Tyr Leu Gly Arg Gly Arg Val Arg Glu Trp  
 180 185 190  
 Leu Asn Leu Ser His Glu Tyr Ile Thr Gln Cys His Cys Arg Gln Ile  
 195 200 205  
 Gln Ala His Ser Gln Asn Tyr Ser Val Ile Thr Glu Tyr Pro Ala Thr  
 210 215 220  
 Cys Ala Leu Ser Gln Pro Ile Thr Lys Leu Pro Asn Gly Ser Arg Arg  
 225 230 235 240  
 Asp Asn

<210> 483  
 <211> 545  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 483  
 Ser Cys Leu Arg Ile Glu Gly Ile Leu Met Ala Thr Ser Val Pro Val  
 1 5 10 15  
 Thr Ser Ser Thr Ser Val Gly Glu Ala Asn Ser Ser Asn Glu Arg Phe  
 20 25 30  
 Thr Glu Arg Thr Ser Arg Met Tyr Tyr Ala Ala Leu Val Leu Gly Ala  
 35 40 45  
 Leu Ser Cys Leu Ile Phe Ile Ala Met Ile Val Ile Phe Pro Gln Val  
 50 55 60  
 Gly Leu Trp Ala Val Val Leu Gly Phe Ala Leu Gly Cys Leu Leu Leu  
 65 70 75 80  
 Ser Leu Ala Ile Val Phe Ala Val Ser Gly Leu Val Leu Gly Lys Thr  
 85 90 95  
 Leu Glu Pro Ser Arg Glu Ala Thr Pro Pro Glu Ile Val Ala Gln Lys  
 100 105 110  
 Glu Trp Thr Thr Gln Gln Asp Val Leu Gly Asn Glu Tyr Trp Arg Ser  
 115 120 125  
 Glu Leu Ile Ser Leu Phe Leu Arg Gly Asp Leu His Glu Ser Leu Ile  
 130 135 140  
 Val Asp Ser Lys Asp Arg Ser Leu Asp Ile Asp Gln Ser Leu Gln Asn  
 145 150 155 160  
 Ile Leu Lys Leu Glu Pro Leu Ser Thr Thr Leu Ser Leu Leu Lys Lys  
 165 170 175  
 Asp Cys Val His Ile Asn Ile Ile Leu His Leu Val Arg Gln Trp Asn  
 180 185 190  
 Leu Leu Gly Val Asp Leu Ser Pro Glu Val Thr Ala His Ala Glu Glu  
 195 200 205  
 Leu Leu Leu Phe Leu Ile Glu Glu Gln Tyr Tyr Ser Pro Asp Ile Leu  
 210 215 220  
 Lys Leu Ile Arg Tyr Gly Asp Ala Leu Gln Ala Thr Ser Pro Leu Met  
 225 230 235 240  
 Asp Trp Ala Asp Ser Gly Ser Phe Ser Val Asp Ala Asp Gly Val Phe  
 245 250 255  
 Ser Cys Arg Arg Glu Glu Cys Ser Pro Glu Asp Ala Leu Ala Gln Phe  
 260 265 270  
 Asp Leu Leu Leu Ala Leu Glu Asn Pro Asp Arg Arg Phe Leu Lys Asp  
 275 280 285  
 Ser Phe Leu Thr Tyr Ile Trp Ser Ser Ser Phe Phe Glu Lys Phe Leu  
 290 295 300  
 His Arg His Leu Glu Ser Leu Gln Arg Lys Leu Pro Glu Thr Ala Ile  
 305 310 315 320  
 Asp Val Ala Arg Tyr Glu Ala Gln Ile Gln Thr Phe Leu Ser Arg Tyr  
 325 330 335  
 Phe Gln Lys Leu Asp Leu Ile Asn Ala Met Ser Leu Asp Trp Gly Tyr  
 340 345 350  
 Asn Cys Ala Glu Gly Glu Lys Cys Tyr Glu Ser Ala Asn Gln Arg Leu  
 355 360 365  
 Asp Asn Leu Phe Ile Ala Phe Ser Ser Ser Val Pro Ala Met Lys Arg  
 370 375 380  
 Leu Phe Asp Lys Tyr Gly Ser Val Val Arg Val Asp Arg Arg Gln Ile  
 385 390 395 400  
 Arg Glu Gln Ile Leu Ser Asn Thr Glu Ile Leu Glu Asn Glu Ser Gly  
 405 410 415  
 Phe Leu Cys Ser Leu Tyr Glu Tyr Pro Leu Ser Tyr Leu Ile Asp Trp  
 420 425 430



Ala Val Leu Leu Asp Cys Val Arg Gly Thr Glu Ile Ser Leu Glu Asp  
           435                                  440                  445  
 Gln Ala Asp Tyr Thr Val Cys Leu Gln Gly Leu Asp Ser Met Leu Ser  
           450                                  455                  460  
 Gln Phe Ala Ser Arg Leu Gln Ser Gly Gln Lys Val Leu Asn Pro Arg  
 465                                  470                  475                  480  
 Asp Val Leu Ser Glu Gln Ala Ala Val Met Leu Val His Gly Leu Ala  
                                   485                                  490                  495  
 Ala Gln Gly Val Ser Phe Gln Gly Leu Lys Ala Leu Met Tyr Leu Thr  
                                   500                                  505                  510  
 Ala Val Pro Gln Arg Met Trp Leu Gly Ala Leu Pro Leu Phe Glu Ser  
                                   515                                  520                  525  
 Phe Pro Val Phe Asn Arg Met Lys Glu Phe Leu Gly Glu Ser Leu Gly  
           530                                  535                                  540  
 Asp  
 545

<210> 484

<211> 268

<212> PRT

<213> Chlamydia pneumoniae

<400> 484

Asn Leu Ala Tyr Arg Ala Gln Thr Phe Met Ile Lys Gln Ile Gly Arg  
 1                                  5                                  10                                  15  
 Phe Phe Arg Ala Phe Ile Phe Ile Met Pro Leu Ser Leu Thr Ser Cys  
                                   20                                  25                                  30  
 Glu Ser Lys Ile Asp Arg Asn Arg Ile Trp Ile Val Gly Thr Asn Ala  
                                   35                                  40                                  45  
 Thr Tyr Pro Pro Phe Glu Tyr Val Asp Ala Gln Gly Glu Val Val Gly  
                                   50                                  55                                  60  
 Phe Asp Ile Asp Leu Ala Lys Ala Ile Ser Glu Lys Leu Gly Lys Gln  
 65                                  70                                  75                                  80  
 Leu Glu Val Arg Glu Phe Ala Phe Asp Ala Leu Ile Leu Asn Leu Lys  
                                   85                                  90                                  95  
 Lys His Arg Ile Asp Ala Ile Leu Ala Gly Met Ser Ile Thr Pro Ser  
                                   100                                  105                                  110  
 Arg Gln Lys Glu Ile Ala Leu Leu Pro Tyr Tyr Gly Asp Glu Val Gln  
                                   115                                  120                                  125  
 Glu Leu Met Val Val Ser Lys Arg Ser Leu Glu Thr Pro Val Leu Pro  
                                   130                                  135                                  140  
 Leu Thr Gln Tyr Ser Ser Val Ala Val Gln Thr Gly Thr Phe Gln Glu  
 145                                  150                                  155                                  160  
 His Tyr Leu Leu Ser Gln Pro Gly Ile Cys Val Arg Ser Phe Asp Ser  
                                   165                                  170                                  175  
 Thr Leu Glu Val Ile Met Glu Val Arg Tyr Gly Lys Ser Pro Val Ala  
                                   180                                  185                                  190  
 Val Leu Glu Pro Ser Val Gly Arg Val Val Leu Lys Asp Phe Pro Asn  
                                   195                                  200                                  205  
 Leu Val Ala Thr Arg Leu Glu Leu Pro Pro Glu Cys Trp Val Leu Gly  
                                   210                                  215                                  220  
 Cys Gly Leu Gly Val Ala Lys Asp Arg Pro Glu Glu Ile Gln Thr Ile  
 225                                  230                                  235                                  240  
 Gln Gln Ala Ile Thr Asp Leu Lys Ser Glu Gly Val Ile Gln Ser Leu  
                                   245                                  250                                  255  
 Thr Lys Lys Trp Gln Leu Ser Glu Val Ala Tyr Glu  
                                   260                                  265

<210> 485  
 <211> 1045  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 485

Ile	Ile	Leu	Ile	Lys	Lys	Arg	Ala	Ile	Phe	Glu	Arg	Met	Phe	Pro	Ile
1				5					10					15	
Pro	Pro	Pro	His	Cys	Pro	Pro	Asn	Asn	Lys	Asn	Asn	Phe	Tyr	His	Leu
			20					25					30		
Thr	Thr	Asp	Thr	Lys	Asp	Pro	Leu	Leu	Leu	Arg	Ile	Leu	Arg	Thr	Ile
		35					40					45			
Gly	Tyr	Val	Leu	Leu	His	Ile	Ile	Thr	Leu	Gly	Leu	Leu	Leu	Leu	Ile
	50					55					60				
His	Tyr	Tyr	Lys	His	His	Arg	Val	Val	Arg	Lys	Glu	Gly	Leu	Pro	Thr
65					70					75					80
Pro	Pro	Thr	Leu	Pro	Lys	Gly	Pro	Glu	Pro	Lys	Thr	Ile	Glu	Ile	Ala
				85					90					95	
Lys	Gln	Pro	Pro	Lys	Asp	Gly	Glu	Asp	Lys	Lys	Pro	Asp	Val	Pro	Lys
			100					105					110		
Pro	Gly	Thr	Pro	Pro	Pro	Glu	Asp	Thr	Pro	Pro	Pro	Pro	Pro	Lys	Ala
		115					120					125			
Pro	Ser	Pro	Ala	Ser	Pro	Lys	Val	Pro	Lys	Gln	Pro	Ala	Asp	Lys	Lys
	130					135					140				
Pro	Thr	Pro	Pro	Pro	Glu	Ala	Pro	Pro	Pro	Pro	Val	Arg	Val	Ala	Thr
145					150						155				160
Pro	Met	Pro	Leu	Arg	Pro	Ser	Ser	Gln	Gly	Tyr	Trp	Gln	Cys	Leu	Asn
				165					170					175	
Arg	Met	Val	Ser	Met	Val	Leu	Arg	Arg	Ala	Pro	Leu	Pro	Leu	Pro	Ala
			180					185					190		
Met	Gln	Val	Asp	Pro	Ile	Leu	Gly	Asp	Phe	Asn	Pro	His	Phe	Val	Ala
	195						200					205			
Ser	Tyr	Pro	Asn	Arg	Ile	Asp	Asn	Glu	Pro	Met	Tyr	Phe	Gln	Ile	Lys
	210					215					220				
Gln	Phe	Lys	Lys	Ile	Ala	Gln	Asn	Pro	Asp	Leu	Pro	Gln	Gln	His	Arg
225					230					235					240
Arg	Leu	Ala	Gln	Leu	Ser	Leu	Glu	Gln	Ala	Leu	Tyr	Leu	Asn	Asp	Asn
				245					250					255	
Tyr	Tyr	Leu	Val	Asn	Val	Pro	Gly	Asp	Gly	Asn	Cys	Phe	Tyr	Arg	Ala
		260						265					270		
Tyr	Ala	Val	Gly	Trp	Leu	Ser	Ala	Leu	Tyr	Glu	Glu	Ser	Ser	Arg	Asn
	275						280					285			
Asp	Ile	Val	Phe	Glu	Gln	Glu	Ala	Thr	Arg	Leu	Leu	Asp	Leu	Pro	Phe
	290					295					300				
Ala	Ser	Ser	Ser	Pro	Ala	Asn	Ala	Asn	Leu	Cys	Ala	Glu	Met	Ala	Glu
305					310					315					320
Leu	Leu	Gln	Leu	Cys	Ser	Thr	Tyr	Cys	Ser	Phe	Ile	Asp	Leu	Tyr	Asp
				325					330					335	
Gly	Val	Ile	Leu	Ser	Gln	Lys	His	Thr	Ala	Thr	Leu	Ile	Ala	Phe	Leu
			340						345					350	
Arg	Lys	Leu	Ser	Ala	Tyr	Ala	Ile	Arg	Gln	Gln	Ile	Ala	Ala	Ser	Ser
		355					360					365			
Asn	Glu	Glu	Thr	Ala	Arg	Ala	Leu	Phe	Ile	Ser	Asp	Met	Gln	Asp	Asp
	370					375					380				
Leu	Leu	Pro	Ser	Val	Leu	Glu	Phe	Leu	Ala	Ala	Asn	Arg	Pro	Tyr	Ser
385					390					395					400
Glu	Leu	Phe	Gln	Asn	Leu	Ile	Asp	His	Ser	Ala	Leu	Pro	Tyr	Met	Gln
				405					410					415	
Ser	Arg	Asp	Lys	Leu	Phe	Leu	Leu	Leu	Glu	His	Leu	Pro	Ala	Leu	Phe
			420					425					430		

Leu	Thr	Asp	Ala	Glu	Leu	Gln	Lys	Met	Ser	Pro	Glu	Asp	Gln	Gln	Leu
		435					440					445			
Arg	Lys	Gln	Tyr	Glu	Arg	Glu	Ile	Arg	Glu	Ala	Phe	Ala	Lys	Leu	Ser
	450					455					460				
Arg	Arg	Ile	Ala	Asp	Ser	Gly	Trp	Asp	Thr	Glu	Arg	Phe	Asn	Ala	Ile
465					470					475					480
Val	Lys	Asp	His	Leu	Pro	Glu	Ala	Ile	Arg	Cys	Gln	Tyr	Ser	Arg	Phe
			485						490					495	
Leu	Ala	Thr	Ile	Glu	Asn	Arg	Arg	Ser	Gly	Asp	Leu	Pro	Trp	Ser	Pro
			500					505					510		
Ala	Leu	Ser	Phe	Phe	Ala	Phe	Leu	Cys	Thr	Cys	Pro	Ser	Val	Arg	Phe
		515					520					525			
His	Lys	Leu	Cys	Ala	Thr	Phe	Tyr	Lys	Ser	Leu	Glu	Asp	Ile	Ile	Ile
	530					535					540				
Ala	Ser	Ala	Pro	Pro	Gln	Arg	Ser	Ile	Gln	Glu	Ile	Leu	Gln	Ile	Ser
545					550					555					560
Asn	Ala	Ser	Leu	Ser	Tyr	Leu	Asn	Glu	Asp	Leu	Asp	Ser	Ser	Trp	Gln
				565					570					575	
Arg	Glu	Val	Ile	Ser	Ser	Asn	Ile	Met	Thr	Ile	Leu	Thr	Thr	His	Glu
		580						585						590	
Ser	Leu	Thr	Leu	Glu	Ser	Ser	Met	Pro	Gln	Leu	Glu	Thr	Leu	His	Lys
		595					600					605			
Arg	Ile	Ala	Asn	Leu	Leu	Lys	Asn	Val	Ile	Ser	Thr	Ser	Phe	Glu	Thr
	610					615					620				
Pro	Pro	Leu	Ser	Asn	Gln	Pro	Asp	Leu	Leu	Ser	Asn	Leu	Val	Asn	Lys
625					630					635					640
Leu	Leu	Val	Ala	Ile	His	Ser	Lys	Leu	Glu	Leu	Lys	Glu	His	Phe	Asn
			645						650					655	
Thr	Val	Cys	Ser	Ala	Arg	Ser	Leu	Arg	Leu	Thr	Arg	Asp	Glu	Gly	Ser
			660					665					670		
Gly	Leu	Ser	Gln	Glu	Gln	Asp	Leu	Leu	Tyr	Thr	Gln	Ala	Val	Gln	Leu
		675					680					685			
Leu	Phe	Phe	Ile	Leu	Gln	His	Pro	Gln	Val	Asn	Asn	Arg	Pro	Glu	Thr
	690					695					700				
Lys	Asp	Ala	Val	Lys	Glu	Leu	Lys	Met	Leu	Leu	Pro	Phe	Leu	Gln	
705					710					715					720
Tyr	Ala	Phe	Lys	Lys	Val	Glu	Asn	Glu	Lys	Lys	Leu	Gln	Lys	Leu	Leu
				725					730					735	
Arg	Ser	Ile	Leu	Gly	Ser	Leu	Val	Leu	Lys	Pro	Pro	Ala	Arg	Tyr	Pro
			740					745					750		
Ser	Thr	Pro	Ser	Asn	Lys	Asp	Lys	Glu	Thr	Phe	Cys	Lys	Phe	Trp	Ser
		755					760					765			
Arg	His	Pro	Glu	Val	Met	Val	Leu	Asp	Pro	Ile	Leu	Glu	Lys	Asn	Cys
	770					775					780				
Met	Gln	Phe	Leu	Arg	Ala	Thr	Phe	Pro	Asn	Tyr	Gln	Leu	Glu	Thr	Glu
785					790					795					800
Ala	Ile	Leu	Leu	Glu	Lys	Glu	Ile	Glu	Ser	Thr	Phe	Arg	Asn	Gly	Trp
				805					810					815	
Asn	Val	Phe	Leu	Thr	Arg	Leu	Asn	Leu	Phe	Gly	Ser	Lys	Leu	Gly	Ser
			820					825					830		
Pro	Ser	Ser	Pro	Thr	Ala	Leu	Ser	Asp	Gln	Phe	Ser	Lys	Ser	Phe	Leu
			835				840					845			
Ile	Phe	Cys	Phe	Leu	Asn	Asn	Tyr	Pro	Lys	Leu	Leu	Gln	Lys	Lys	Thr
	850					855					860				
Pro	Leu	Ala	Ala	Arg	Leu	Asp	Ala	Phe	Gln	Arg	Glu	Ala	Ser	His	Arg
865					870					875					880
Phe	Thr	Gln	Val	Lys	Asp	Lys	Leu	Leu	Leu	Ser	Leu	Lys	Tyr	Gly	Phe
				885					890					895	
Pro	Leu	Ala	Thr	Ala	Thr	Ile	Asn	Gln	Tyr	Ser	Arg	Ala	Arg	Asp	Gln
			900					905					910		

Leu Ile Cys Asn Leu Leu Lys Asn Thr Val Thr Ala Ser Asp Gly Phe  
           915                          920                          925  
 Cys Arg Ser Gly Phe Arg Gln Ser Leu Ile Gly Tyr Leu His Ser Leu  
           930                          935                          940  
 Ser Ser Asn Glu Leu Gly Asp Ile Leu Asp Asp Val Lys Glu Gln Ala  
 945                          950                          955                          960  
 Glu Ala Asn Asp Val Ala Ala Met Thr Thr Val Pro Leu Gln Pro Phe  
                           965                          970                          975  
 Ala Val Cys Leu Ile Met Ser Asp Arg Asp Thr Val Ser Glu Glu Asn  
                           980                          985                          990  
 Ile Glu Asn Phe Val Ala Met His Gly Phe Leu Asn Thr Ile Ser Pro  
                           995                          1000                          1005  
 Glu Arg Asp Ala Arg Ile Phe Leu Ile Arg Phe Pro Asn His Tyr Gly  
           1010                          1015                          1020  
 Cys Leu Leu Pro Arg Asn Pro Arg Thr Glu Asp Gln Asn Ser Lys Pro  
 1025                          1030                          1035                          1040  
 Asp Ser Ser Asn Pro  
                           1045

<210> 486  
 <211> 298  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 486  
 Arg Ser Glu Leu Lys Thr Gly Gln Leu Lys Ser Leu Val Leu His Glu  
 1                          5                          10                          15  
 Val Leu Ile Leu Thr Phe Thr Tyr Pro Leu Pro Arg Thr Leu Lys Gln  
           20                          25                          30  
 His Pro Asp Glu Val His Thr Val Pro Ile Ser Pro Asn Leu Ser Phe  
           35                          40                          45  
 Gly Glu Gly Ser Pro Ile Leu Ile Ala Gly Pro Cys Thr Leu Glu Ser  
           50                          55                          60  
 Tyr Glu His Thr Val Ser Ala Leu Thr Val Lys Glu Ala Gly Ala  
 65                          70                          75                          80  
 Gln Val Phe Arg Gly Ser Ile Arg Lys Pro Arg Thr Ser Pro Phe Ser  
           85                          90                          95  
 Phe Gln Gly Trp Glu Lys Glu Cys Val Leu Trp His Lys Glu Ala Gln  
           100                          105                          110  
 Ser Ile His Gly Leu Pro Thr Glu Thr Glu Val Leu Asp Val Arg Asp  
           115                          120                          125  
 Val Glu Ile Thr Ala Glu His Val Asp Ile Leu Arg Ile Gly Ala Lys  
           130                          135                          140  
 Asn Met His Asn Thr Pro Leu Leu Gln Glu Val Ser Lys Ser His Arg  
 145                          150                          155                          160  
 Pro Ile Ile Leu Lys Arg Ser Pro Ala Ala Thr Leu Glu Glu Trp Leu  
           165                          170                          175  
 Cys Ala Ala Glu Tyr Ile Leu Ala Ser Ser Pro Ser Cys Pro Gly Val  
           180                          185                          190  
 Ile Leu Cys Glu Arg Gly Ile Arg Thr Phe Glu His Ser Thr Arg Tyr  
           195                          200                          205  
 Thr Leu Asp Leu Asn Thr Val Ala Leu Leu Lys Glu Ile Ser Ser Leu  
           210                          215                          220  
 Pro Val Ile Val Asp Pro Ser His Ala Ala Gly Lys Arg Ser Leu Val  
 225                          230                          235                          240  
 Leu Pro Leu Ala Ser Ala Gly Leu Ser Val Gly Ala Asp Gly Leu Met  
           245                          250                          255  
 Ile Glu Val His Ala His Pro Glu Lys Ala Leu Cys Asp Ala Lys Gln  
           260                          265                          270  
 Gln Ile Thr Pro Glu Glu Leu His Leu Phe Ala Lys Lys His Phe Cys  
           275                          280                          285

Pro Ser Glu Ser Arg Ala His Ala Ile Ser  
290 295

<210> 487  
<211> 79  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 487

Gln	Pro	Ile	Gly	Arg	Thr	Pro	Thr	Arg	Val	Phe	Leu	Trp	Arg	Phe	Met
1				5					10					15	
Ile	Lys	Gln	Ala	Cys	Lys	Phe	Tyr	Leu	Leu	Gln	Cys	Leu	Leu	Cys	Ala
			20					25					30		
Leu	Tyr	Trp	Leu	Leu	Lys	Tyr	Cys	Arg	Lys	Leu	Leu	Lys	Gly	Thr	Leu
		35					40					45			
His	His	Ser	Glu	Glu	Thr	Leu	Tyr	Gln	Ala	Leu	Leu	Ser	Ser	Leu	Ile
	50					55				60					
Asp	Leu	Leu	Tyr	Gln	Leu	Lys	Gln	Leu	Pro	Ala	Pro	Thr	Asn	Glu	
65					70					75					

<210> 488  
<211> 465  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 488

Ala	Gln	His	Arg	Ser	Leu	Leu	Lys	Gly	Asn	Ile	Phe	His	Leu	Gly	Cys
1				5					10					15	
Gly	Val	Leu	Tyr	Phe	Met	Asn	Phe	Ser	Leu	Phe	Leu	Phe	Phe	Leu	Ile
			20					25					30		
Ala	Ile	Gln	Gly	Ile	Cys	Leu	Tyr	Val	Gly	Arg	Arg	Gly	Ser	Lys	Lys
		35					40					45			
Val	Glu	Asp	Arg	Glu	Ser	Tyr	Phe	Leu	Ala	Gly	Arg	Ser	Leu	Lys	Ile
	50					55				60					
Phe	Pro	Leu	Met	Met	Thr	Phe	Ile	Ala	Thr	Gln	Ile	Gly	Gly	Gly	Val
65					70					75					80
Leu	Leu	Gly	Ala	Ala	Glu	Glu	Ala	Phe	Cys	Tyr	Gly	Tyr	Gly	Gly	Ile
			85						90					95	
Leu	Tyr	Pro	Leu	Gly	Val	Ala	Leu	Gly	Leu	Ile	Phe	Leu	Gly	Met	Gly
		100						105					110		
Pro	Gly	Lys	Arg	Leu	Ala	Glu	Gly	Ser	Leu	Thr	Thr	Val	Val	Ser	Ile
		115					120					125			
Phe	Glu	Val	Phe	Tyr	Gly	Ser	Lys	Lys	Leu	Arg	Lys	Ile	Ala	Phe	Leu
	130					135					140				
Leu	Ser	Ala	Gly	Ser	Leu	Phe	Phe	Ile	Leu	Val	Ala	Gln	Val	Ile	Ala
145					150					155					160
Leu	Asp	Arg	Leu	Phe	Ser	Ser	Phe	Pro	Phe	Gly	Lys	Tyr	Val	Thr	Val
			165						170					175	
Ala	Phe	Trp	Ile	Val	Leu	Ala	Ser	Tyr	Thr	Ser	Thr	Gly	Gly	Phe	Arg
		180						185					190		
Gly	Val	Val	Arg	Thr	Asp	Val	Ile	Gln	Ala	Gly	Phe	Leu	Leu	Ile	Ala
		195					200					205			
Val	Leu	Val	Cys	Gly	Val	Ser	Val	Trp	Leu	Ser	Val	Pro	Lys	Ser	Leu
	210					215					220				
Ser	Val	Leu	Asp	Pro	Phe	Gln	Ser	Leu	Pro	Cys	Ala	Lys	Leu	Ser	Asn
225				230						235					240
Trp	Ile	Phe	Met	Pro	Met	Leu	Phe	Met	Leu	Val	Glu	Gln	Asp	Met	Val
			245						250					255	
Gln	Arg	Cys	Val	Ala	Ala	Ser	Ser	Pro	Lys	Arg	Leu	Gln	Trp	Ala	Ala
			260					265						270	

Val Gly Ala Gly Leu Val Leu Leu Leu Phe Asn Phe Ile Pro Leu Phe  
 275 280 285  
 Leu Gly Ser Leu Gly Ala Lys Ala Gly Leu Lys Ala Gly Cys Pro Leu  
 290 295 300  
 Ile Asp Thr Ile Ala Tyr Phe Cys Asn Pro Ser Leu Ala Ala Val Met  
 305 310 315 320  
 Ala Ala Ala Ile Gly Val Ala Ile Leu Ser Thr Ala Asp Ser Leu Met  
 325 330 335  
 Asn Ala Val Ser Gln Leu Ile Ala Glu Glu Tyr Pro Thr Leu Lys Ala  
 340 345 350  
 Pro Tyr Tyr Arg Tyr Leu Val Leu Gly Leu Ala Val Ala Pro Leu  
 355 360 365  
 Val Ala Ile Gly Phe Thr Asn Ile Val Asp Val Leu Ile Leu Ser Tyr  
 370 375 380  
 Ser Leu Ser Val Cys Cys Leu Ser Val Pro Val Gly Phe Tyr Leu Leu  
 385 390 395 400  
 Ala Pro Lys Gly Arg Arg Val Ser Gly Ala Ala Ala Trp Ala Gly Val  
 405 410 415  
 Leu Val Gly Ala Leu Gly Tyr Gly Trp Val Gln Ile Val Ser Leu Gly  
 420 425 430  
 Met Phe Gly Glu Leu Leu Ala Trp Val Gly Ser Leu Val Ala Phe Ser  
 435 440 445  
 Phe Val Gly Phe Ile Glu Ile Thr Trp Lys Asn Lys Val Lys Thr Gln  
 450 455 460  
 Thr  
 465

<210> 489

<211> 574

<212> PRT

<213> Chlamydia pneumoniae

<400> 489

Arg Arg Thr Gly Gly Ile Ser Leu Thr Tyr Ser Ser Phe Arg Trp Ala  
 1 5 10 15  
 Ser Phe Arg Cys Tyr Ser Leu Ile Phe Phe Cys Phe Cys Gly Ser Leu  
 20 25 30  
 Phe Gly Ser Glu Ser Leu Arg Tyr Gln Leu Leu Ile Gln Asp Phe Ala  
 35 40 45  
 Lys Val Ser Glu Glu Gly Ile Gly Leu Leu Glu Ser Lys Glu Tyr Ser  
 50 55 60  
 Leu Leu Gln Ala Lys Leu Val Leu Arg Ala Leu Ala Gln Asn Ser Ser  
 65 70 75 80  
 Phe Asp Asp Trp Phe Arg Ser Phe Lys Lys Cys Gln Ile Ser Tyr Pro  
 85 90 95  
 Glu Leu Ala His Asp Arg Asp Val Leu Glu Glu Phe Gly Ile Gln Val  
 100 105 110  
 Leu Arg Glu Gly Ile Glu Asn Pro Ser Val Thr Val Arg Ala Val Ser  
 115 120 125  
 Val Leu Ala Ile Gly Leu Ala Arg Asp Phe Arg Leu Val Pro Leu Leu  
 130 135 140  
 Leu Gln Ser Cys Asn Asp Asp Ser Ala Ile Val Arg Ser Leu Ala Leu  
 145 150 155 160  
 Gln Val Ala Val Asn Tyr Gly Ser Glu Ser Leu Lys Lys Ala Ile Val  
 165 170 175  
 Glu Leu Ala Arg Asn Asp Asp Ser Ile His Val Arg Ile Thr Ala Tyr  
 180 185 190  
 Gln Val Val Ala Leu Leu Gln Ile Glu Glu Leu Leu Pro Phe Leu Arg  
 195 200 205  
 Glu Arg Ala Glu Asn Lys Leu Val Asp Ser Val Glu Arg Arg Glu Ala  
 210 215 220

Trp	Lys	Ala	Cys	Leu	Glu	Leu	Ser	Ser	Gln	Phe	Leu	Glu	Thr	Gly	Val
225					230					235					240
Ala	Lys	Asp	Asp	Ile	Asp	Gln	Ala	Leu	Phe	Thr	Cys	Glu	Val	Leu	Arg
				245					250					255	
Asn	Gly	Met	Leu	Pro	Glu	Thr	Thr	Glu	Ile	Phe	Thr	Glu	Leu	Leu	Ser
			260					265					270		
Val	Glu	His	Pro	Glu	Val	Gln	Glu	Ser	Leu	Leu	Leu	Ser	Ala	Leu	Ala
		275					280					285			
Trp	Ser	His	Gln	Leu	Gln	Asn	His	Lys	Glu	Phe	Leu	Ser	Lys	Val	Arg
	290					295				300					
His	Val	Met	Cys	Thr	Ser	Pro	Phe	Ala	Lys	Val	Arg	Phe	Gln	Ala	Ala
305					310					315					320
Ala	Leu	Leu	His	Leu	His	Gly	Asp	Pro	Leu	Gly	Arg	Asp	Ser	Leu	Val
				325					330					335	
Glu	Gly	Leu	Arg	Ser	Pro	Gln	Pro	Leu	Val	Cys	Glu	Ala	Ala	Ser	Ala
			340					345					350		
Ala	Leu	Cys	Ser	Leu	Gly	Ile	His	Gly	Val	Pro	Leu	Ala	Lys	Glu	His
		355					360					365			
Leu	Glu	Ser	Leu	Ser	Ser	Arg	Lys	Ala	Ala	Ala	Asn	Leu	Ser	Ile	Leu
	370					375					380				
Leu	Leu	Val	Ser	Arg	Glu	Asp	Ile	Glu	Arg	Ala	Gly	Asp	Val	Ile	Ala
385					390					395					400
Arg	Tyr	Leu	Ser	Asn	Pro	Glu	Met	Cys	Trp	Ala	Ile	Glu	Tyr	Phe	Leu
				405					410					415	
Trp	Asp	Ala	Gln	Trp	Asn	Leu	Arg	Gly	Asp	Thr	Phe	Pro	Leu	Tyr	Ser
			420					425					430		
Asp	Met	Ile	Lys	Arg	Glu	Ile	Gly	Arg	Lys	Leu	Ile	Arg	Leu	Leu	Ala
		435					440					445			
Val	Ala	Arg	Tyr	Ser	Gln	Ala	Lys	Ala	Val	Thr	Ala	Thr	Phe	Leu	Ser
	450					455				460					
Gly	Gln	Gln	Ala	Gln	Gly	Trp	Ser	Phe	Phe	Ser	Gly	Met	Phe	Trp	Glu
465					470					475					480
Glu	Gly	Asp	Val	Lys	Thr	Ser	Glu	Asp	Leu	Val	Thr	Asp	Ala	Cys	Phe
				485					490					495	
Ala	Ala	Lys	Leu	Glu	Gly	Ala	Leu	Ala	Ser	Leu	Cys	Gln	Lys	Lys	Asp
			500					505					510		
Gln	Ala	Ser	Leu	Gln	Arg	Val	Ser	Gln	Leu	Tyr	Asn	Asp	Ser	Arg	Trp
		515					520					525			
Gln	Asp	Lys	Leu	Ala	Ile	Leu	Glu	Ser	Val	Ala	Phe	Ser	Glu	Asn	Leu
	530					535					540				
Asp	Ala	Val	Pro	Phe	Leu	Leu	Asp	Cys	Cys	His	His	Glu	Ala	Pro	Ser
545					550					555					560
Leu	Arg	Ser	Ala	Ala	Gly	Ala	Leu	Phe	Ser	Ile	Phe	Lys			
				565				570							

<210> 490

<211> 127

<212> PRT

<213> Chlamydia pneumoniae

<400> 490

Arg	Lys	Leu	Pro	Thr	Cys	Phe	Ala	Val	Asn	Val	Thr	Arg	Ser	Arg	Asp
1				5					10					15	
His	Met	Thr	Val	Phe	Lys	Gln	Ile	Ile	Asp	Gly	Leu	Ile	Asp	Cys	Glu
			20					25				30			
Lys	Val	Phe	Glu	Asn	Glu	Asn	Phe	Ile	Ala	Ile	Lys	Asp	Arg	Phe	Pro
		35					40					45			
Gln	Ala	Pro	Val	His	Leu	Leu	Ile	Ile	Pro	Lys	Lys	Pro	Ile	Pro	Arg
	50					55					60				
Phe	Gln	Asp	Ile	Pro	Gly	Asp	Glu	Met	Ile	Leu	Met	Ala	Glu	Ala	Gly
65					70					75					80

Lys Ile Val Gln Glu Leu Ala Ala Glu Phe Gly Ile Ala Asp Gly Tyr  
                     85                    90                    95  
 Arg Val Val Ile Asn Asn Gly Ala Glu Gly Gly Gln Ala Val Phe His  
                     100                    105                    110  
 Leu His Ile His Leu Leu Gly Gly Arg Pro Leu Gly Ala Ile Ala  
                     115                    120                    125

<210> 491  
 <211> 314  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 491  
 Arg Ile Val Phe Ala Ile Glu Asn Tyr Phe Ser Leu Val Thr Met Glu  
   1                    5                    10                    15  
 Asp Trp Leu Arg Arg Ile Val Gly Met Gln Ile Pro Arg Ser Ile Gly  
                     20                    25                    30  
 Thr His Asp Gly Ser Phe His Ala Asp Glu Val Thr Ala Cys Ala Leu  
                     35                    40                    45  
 Leu Ile Ile Phe Asp Leu Val Asp Glu Asn Lys Ile Ile Arg Ser Arg  
   50                    55                    60  
 Asp Pro Val Val Leu Ser Lys Cys Glu Tyr Val Cys Asp Val Gly Gly  
   65                    70                    75                    80  
 Val Tyr Ser Ile Glu Asn Lys Arg Phe Asp His His Gln Val Ser Tyr  
                     85                    90                    95  
 Asp Gly Ser Trp Ser Ser Ala Gly Met Ile Leu His Tyr Leu Lys Glu  
                     100                    105                    110  
 Phe Gly Tyr Met Asp Cys Glu Glu Tyr His Phe Leu Asn Asn Thr Leu  
                     115                    120                    125  
 Val His Gly Val Asp Glu Gln Asp Asn Gly Arg Phe Phe Ser Lys Glu  
                     130                    135                    140  
 Gly Phe Cys Ser Phe Ser Asp Ile Ile Lys Ile Tyr Asn Pro Arg Glu  
   145                    150                    155                    160  
 Glu Glu Glu Thr Asn Ser Asp Ala Asp Phe Ser Cys Ala Leu His Phe  
                     165                    170                    175  
 Thr Ile Asp Phe Leu Cys Arg Leu Arg Lys Lys Phe Gln Tyr Asp Arg  
                     180                    185                    190  
 Val Cys Arg Gly Ile Val Arg Glu Ala Met Glu Thr Glu Asp Met Cys  
                     195                    200                    205  
 Leu Tyr Phe Asp Arg Pro Leu Ala Trp Gln Glu Asn Phe Phe Phe Leu  
   210                    215                    220  
 Gly Gly Glu Lys His Pro Ala Ala Phe Val Cys Phe Pro Ser Cys Asp  
   225                    230                    235                    240  
 Gln Trp Ile Leu Arg Gly Ile Pro Pro Asn Leu Asp Arg Arg Met Asp  
                     245                    250                    255  
 Val Arg Val Pro Phe Pro Glu Asn Trp Ala Gly Leu Leu Gly Lys Glu  
                     260                    265                    270  
 Leu Ser Lys Val Ser Gly Ile Pro Gly Ala Val Phe Cys His Lys Gly  
                     275                    280                    285  
 Leu Phe Leu Ser Val Trp Thr Asn Arg Glu Ser Cys Gln Arg Ala Leu  
   290                    295                    300  
 Arg Leu Thr Leu Gln Asp Arg Gly Ile Ile  
   305                    310

<210> 492  
 <211> 686  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 492

Ile	Met	Tyr	Asn	Leu	Leu	His	Ala	His	His	Asp	Ala	Ala	Ser	Pro	Asp	1	5	10	15
Gly	Arg	Leu	Val	Ser	His	Leu	Lys	Lys	Leu	Ser	Pro	His	Ile	Tyr	Glu	20	25	30	
Gly	Glu	Val	Leu	Ile	Glu	Asn	Ile	Pro	Ala	Tyr	Phe	Leu	Gly	Phe	His	35	40	45	
Leu	Pro	Gln	Gln	Cys	Ile	Gln	Val	Asn	Leu	Lys	Ser	Ser	Leu	Ala	Gln	50	55	60	
Leu	Gly	Val	Glu	Ala	Val	Leu	Asn	His	Leu	Glu	Leu	Asn	Lys	Ala	Arg	65	70	75	80
Lys	Glu	Ala	Arg	Leu	His	Val	Leu	Phe	Met	Ser	Gln	Asp	Pro	Ile	Ala	85	90	95	
Thr	Ala	Met	Leu	Glu	Leu	Leu	Glu	Pro	Gly	Ser	Phe	Val	Cys	Lys	Leu	100	105	110	
Phe	Ala	Ala	Asp	Asp	Arg	Arg	Leu	Val	Arg	Ser	Pro	Cys	Tyr	Leu	Asn	115	120	125	
Arg	Met	Phe	Thr	His	Thr	Asp	Arg	Thr	Gly	Ser	Pro	Leu	Leu	Arg	Phe	130	135	140	
Gly	Lys	Lys	Leu	Glu	His	Phe	Ile	Thr	Leu	Glu	Ile	Ile	Asn	Asp	Arg	145	150	155	160
Leu	Val	Val	Phe	Leu	Pro	Ile	Leu	Pro	Gly	Thr	Ile	Cys	Tyr	Glu	Glu	165	170	175	
Thr	Ile	Tyr	Gly	Phe	Leu	Pro	Leu	Met	Ser	Lys	Ser	Leu	Thr	Arg	Pro	180	185	190	
His	Leu	Lys	Ile	Arg	Lys	Phe	Leu	Pro	Leu	Tyr	Gln	Met	Val	Thr	Asp	195	200	205	
Arg	Pro	Pro	Val	Pro	Glu	Asp	His	Lys	Ile	Leu	Leu	Ile	Lys	Thr	Glu	210	215	220	
Pro	Leu	His	Ile	Arg	Thr	Val	Phe	Ala	Arg	Val	Val	Gln	Asp	Leu	Leu	225	230	235	240
Pro	Gln	Gly	Leu	Arg	His	Thr	Ala	Ala	Asp	Ile	Leu	Glu	Pro	Thr	Thr	245	250	255	
Gln	Glu	Ser	Gly	Asp	Ile	Tyr	Glu	Phe	Tyr	Gly	Ser	Thr	Ser	Glu	Pro	260	265	270	
Ile	Glu	Arg	Ile	Pro	Leu	Glu	Phe	Phe	Thr	Leu	Glu	Pro	Tyr	Lys	Glu	275	280	285	
His	Ser	Phe	Phe	Phe	Tyr	Arg	Asp	Met	Leu	Gln	Glu	Thr	Leu	Glu	Ser	290	295	300	
Pro	Gln	Glu	Val	Phe	Arg	Val	Phe	Glu	Ser	Ile	Pro	Glu	Gly	Glu	Asp	305	310	315	320
Gln	Ala	Ala	Met	Phe	Ile	Ser	Lys	Gly	Ser	Glu	Leu	Leu	Glu	Leu	Ser	325	330	335	
Gln	Asp	Ser	Trp	Ile	Ile	Lys	Pro	Arg	Ile	Ser	Pro	Ser	Asp	Glu	Arg	340	345	350	
His	Ala	Arg	Glu	Ile	Gln	Lys	His	Ile	Glu	Asp	Gln	Pro	Cys	Phe	Pro	355	360	365	
Phe	Leu	Lys	Ala	Met	Glu	Thr	Asp	His	Ile	Thr	Ser	Gln	Gly	Val	Leu	370	375	380	
Phe	Ser	Arg	Tyr	Phe	Pro	Ser	Ala	Ser	Leu	Lys	Gly	Met	Phe	Leu	Ser	385	390	395	400
Asn	Tyr	Ser	Arg	Tyr	Tyr	Leu	Gln	His	Ile	Tyr	Phe	Gln	Ile	Pro	Ser	405	410	415	
Pro	Thr	Ser	Gly	Glu	Phe	Phe	Ser	Asn	Arg	Asp	Arg	Ser	Phe	Leu	Leu	420	425	430	
Asp	Leu	Tyr	Phe	Ala	Gly	Ile	Ser	Val	Phe	Trp	Ala	Asp	Leu	Glu	Ser	435	440	445	
Lys	Arg	Leu	Leu	Gln	Tyr	Ile	Lys	Arg	Arg	Asn	Lys	Asp	Val	Gly	Met	450	455	460	
Phe	Val	Pro	Lys	His	Gln	Ala	Glu	Gln	Phe	Ala	Gln	Ser	Tyr	Phe	Ile	465	470	475	480

Gly	Ile	His	Gly	Ser	Cys	Leu	Ile	Ala	Gly	Asp	Tyr	Asp	Glu	Phe	Leu
				485					490					495	
Arg	Glu	Leu	Leu	Thr	Gly	Met	His	Thr	Leu	Ser	Gln	Gln	Phe	Thr	Ile
			500					505					510		
Pro	Glu	Phe	Pro	Pro	Gln	Thr	Pro	Leu	Ala	Ile	Leu	Thr	Gly	Gly	Gly
		515					520					525			
Ser	Gly	Ala	Met	Glu	Leu	Ala	Asn	Arg	Val	Ala	Thr	Glu	Leu	Ser	Ile
						535					540				
Leu	Ser	Cys	Gly	Asn	Leu	Ile	Ser	Leu	Asp	Thr	Thr	Asn	Ala	Tyr	Val
545					550					555					560
Glu	Ala	Lys	Met	Ser	Tyr	Ala	Ile	Pro	Asp	Leu	Leu	Glu	Arg	Gln	Ala
				565					570					575	
Asp	Phe	His	Val	Asp	Leu	Ala	Val	Phe	Val	Ile	Gly	Gly	Met	Gly	Thr
			580					585					590		
Asp	Phe	Glu	Leu	Leu	Leu	Glu	Leu	Ile	Ser	Leu	Lys	Thr	Gly	Lys	Lys
			595				600					605			
Ala	Leu	Val	Pro	Val	Phe	Leu	Ile	Gly	Pro	Val	Asp	Tyr	Trp	Lys	Ser
		610				615					620				
Lys	Ile	Thr	Ala	Leu	Tyr	Asn	Ser	Asn	His	Ala	Val	Gly	Thr	Ile	Arg
625					630					635					640
Gly	Ser	Glu	Trp	Val	His	Asn	Cys	Leu	Phe	Cys	Leu	Ser	Ser	Ala	Lys
				645					650					655	
Ala	Gly	Ile	Ala	Ile	Phe	Arg	Arg	Tyr	Leu	Asn	His	Thr	Leu	Pro	Ile
			660					665					670		
Gly	Pro	Glu	His	Pro	Val	Pro	Glu	Asp	Gly	Phe	Val	Ile	Val		
		675					680					685			

<210> 493

<211> 420

<212> PRT

<213> Chlamydia pneumoniae

<400> 493

Ile	Leu	Ser	Ser	Leu	Tyr	Thr	Val	Phe	Thr	Met	Lys	Thr	Ala	Phe	His
1				5					10					15	
Ser	Cys	Tyr	Ser	Trp	Phe	Cys	Trp	Leu	Phe	Ser	Phe	Leu	Val	Leu	Phe
			20					25				30			
Val	Gly	Gly	Ile	Ala	Gly	Gly	Glu	Pro	Leu	Cys	Pro	Asp	Cys	Lys	Tyr
		35					40					45			
Glu	Thr	Lys	Ser	Val	Leu	Arg	Ser	Asp	Gln	Leu	Pro	Asp	His	Leu	Trp
		50				55					60				
Asn	Tyr	Glu	Asn	Asp	Cys	Tyr	Leu	Thr	Gly	Tyr	Val	Gln	Ser	Leu	Leu
65					70					75					80
Asp	Met	His	Phe	Leu	Asp	Ser	Arg	Thr	Gln	Val	Val	Ile	Glu	Lys	Asn
			85					90					95		
Arg	Ala	Tyr	Leu	Phe	Ser	Leu	Pro	Val	Asp	Ser	Ser	Leu	Ser	Glu	Ala
			100					105					110		
Ile	Thr	Asn	Phe	Val	Arg	Asp	Leu	Pro	Phe	Ile	Cys	Ala	Val	Glu	Ile
		115					120					125			
Cys	Glu	Arg	Pro	Tyr	Gly	Glu	Cys	Ile	Thr	Arg	Ser	Ser	Ala	Glu	Arg
		130				135					140				
Pro	Leu	Leu	Pro	Lys	Glu	Lys	Thr	Leu	Gly	Met	Pro	Ile	Phe	Cys	Gly
145					150					155					160
Lys	Glu	Gly	Val	Trp	Leu	Pro	Gln	Asn	Thr	Ile	Leu	Phe	Ser	Pro	Leu
			165						170					175	
Ile	Ala	Asp	Pro	Arg	Gln	Val	Thr	Asn	Ser	Ala	Gly	Ile	Arg	Phe	Asn
			180					185					190		
Glu	Lys	Val	Val	Gly	Asn	Arg	Val	Gly	Ala	Thr	Ile	Phe	Gly	Gly	Asp
		195					200					205			
Phe	Ile	Leu	Leu	Arg	Leu	Phe	Asp	Val	Ser	Arg	Phe	His	Val	Asp	Cys
		210					215					220			

Asp Phe Gly Ile Gln Gly Gly Val Phe Ser Val Phe Asp Leu Asp His  
 225 230 235 240  
 Pro Glu Ser Cys Met Val Asn Ser Asp Phe Phe Val Ala Gly Leu Trp  
 245 250 255  
 Ser Gly Ala Ile Asp Lys Trp Ser Phe Arg Phe Arg Leu Trp His Leu  
 260 265 270  
 Ser Ser His Leu Gly Asp Glu Phe Ile Leu Thr His Pro Asn Phe Pro  
 275 280 285  
 Arg Phe Asn Leu Ser Asp Glu Gly Val Asp Leu Phe Ile Ser Phe Arg  
 290 295 300  
 Tyr Thr Pro Gln Ile Arg Leu Tyr Gly Gly Cys Gly Tyr Ile Val Ser  
 305 310 315 320  
 Arg Asp Leu Thr Phe Pro Glu Arg Pro Phe Tyr Cys Glu Trp Gly Ala  
 325 330 335  
 Glu Leu Arg Pro Phe Gly Leu Arg Glu Gly Asn Leu His Ala Gln Pro  
 340 345 350  
 Ile Phe Ala Met His Phe Arg Cys Trp Glu Glu Gln Lys Phe Gly Leu  
 355 360 365  
 Asp Gln Ser Tyr Ile Leu Gly Met Glu Trp Ala Lys Phe Gln Glu Ile  
 370 375 380  
 Gly Arg Lys Ile Arg Ala Val Leu Glu Tyr His Gln Gly Phe Ser Lys  
 385 390 395 400  
 Glu Gly Gln Phe Ile Arg Glu Pro Cys Asn Tyr Tyr Gly Phe Arg Leu  
 405 410 415  
 Thr Tyr Gly Phe  
 420

<210> 494  
 <211> 54  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 494  
 Leu Phe Ser Leu Ile Phe Pro Ile Cys Glu Glu Arg Asn Ser Gln Gln  
 1 5 10 15  
 Thr Tyr Lys His Leu His Val Glu Ser Ala Cys Phe Leu Leu Glu Ser  
 20 25 30  
 Pro Leu Lys Ile His Trp Ser Ser Pro Tyr Gly Phe Pro Pro Phe Tyr  
 35 40 45  
 Arg Arg Asp Leu Lys Leu  
 50

<210> 495  
 <211> 96  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 495  
 Ser Lys Thr Glu Gly Ser His Ser Lys Thr Ser Lys Gly Phe Val Gly  
 1 5 10 15  
 Arg Phe Val Gln Trp Ile Arg Thr Phe Thr Gly Arg Gly Ser Lys Lys  
 20 25 30  
 Arg Ser Pro Ser Ser Phe Ser Pro Thr His Pro Tyr Ile Arg Leu Arg  
 35 40 45  
 Thr Tyr Thr Arg Ser Pro Lys Gln Ser Gly Val Glu Arg Lys Gln Glu  
 50 55 60  
 Asp Ala Glu Thr Ser Phe Ile Glu Thr Pro Lys Gly Ile Leu Lys Lys  
 65 70 75 80  
 Pro Gly Asn Lys Asp Pro Lys Gly Lys His Val His Trp Lys Asp Ser  
 85 90 95

<210> 496  
 <211> 75  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 496  
 Val Ile Met Ile Arg Val Asn Pro Tyr Gly Ser Tyr Arg Gly Arg Asn  
 1 5 10 15  
 Pro Ser Pro Glu Asp Gly Lys Lys Asp Val Pro Leu Ser Gly Asn Ser  
 20 25 30  
 Arg Leu His Arg Arg Gly Gly Ile Arg Arg Lys His Lys Ser Ala Ser  
 35 40 45  
 Val Gly Val Thr Ser Gly Ser Lys Thr Gly Lys Ala Ser Leu Glu Lys  
 50 55 60  
 Lys Val Lys Gly Ile Ser Glu Ala His Phe Lys  
 65 70 75

<210> 497  
 <211> 429  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 497  
 Arg Arg Leu Lys Lys Asn Gln Lys Met Ala Ile Gln Lys Ala Gly Ala  
 1 5 10 15  
 Phe Leu Arg Cys Leu Pro Ser Glu Ser Arg Pro Tyr Leu Glu His Ala  
 20 25 30  
 Met Arg Arg Asn Pro His Phe Ser Leu Leu Lys Pro Gln Tyr Leu Phe  
 35 40 45  
 Ser Glu Ile Ser Lys Lys Leu Ala Gln Phe Arg Lys Glu Asn Pro Glu  
 50 55 60  
 Ile Ser Val Ile Asp Leu Ser Ile Gly Asp Thr Thr Gln Pro Leu Cys  
 65 70 75 80  
 Arg Ser Ile Thr Gln Ala Ile Lys Glu Phe Cys Val Ser Gln Glu Lys  
 85 90 95  
 Gln Glu Thr Tyr Arg Gly Tyr Gly Pro Glu Thr Gly Leu Glu Lys Leu  
 100 105 110  
 Arg Thr Lys Ile Ala Ser Glu Val Tyr Glu Asn Arg Ile Ser Pro Glu  
 115 120 125  
 Glu Ile Phe Ile Ser Asp Gly Ala Lys Pro Asp Ile Phe Arg Leu Phe  
 130 135 140  
 Ser Phe Phe Gly Ser Glu Lys Thr Leu Gly Leu Gln Asp Pro Val Tyr  
 145 150 155 160  
 Pro Ala Tyr Arg Asp Ile Ala His Ile Thr Gly Ile Arg Asp Ile Ile  
 165 170 175  
 Pro Leu Ala Cys Arg Lys Glu Thr Gly Phe Ile Pro Glu Leu Pro Asn  
 180 185 190  
 Gln Gln Ser Leu Asp Ile Leu Cys Leu Cys Tyr Pro Asn Asn Pro Thr  
 195 200 205  
 Gly Thr Val Leu Thr Phe Gln Leu Gln Ala Leu Val Asn Tyr Ala  
 210 215 220  
 Asn Gln His Gly Thr Val Leu Ile Phe Asp Ala Ala Tyr Ser Ala Phe  
 225 230 235 240  
 Val Ser Asp Pro Ser Leu Pro Lys Ser Ile Phe Glu Ile Pro Glu Ala  
 245 250 255  
 Lys Tyr Cys Ala Ile Glu Ile Asn Ser Phe Ser Lys Ser Leu Gly Phe  
 260 265 270  
 Thr Gly Met Arg Leu Ala Trp Asn Val Ile Pro Lys Glu Leu Thr Tyr  
 275 280 285  
 Asp Asn Asn Glu Pro Met Ile Asn Asp Trp Lys Arg Leu Phe Ala Thr  
 290 295 300

Thr Phe Asn Gly Ala Ser Leu Leu Met Gln Glu Ala Gly Tyr Tyr Gly  
 305 310 315 320  
 Leu Asp Leu Phe Pro Thr Pro Pro Ala Ile Ser Leu Tyr Leu Thr Asn  
 325 330 335  
 Ala Gln Lys Leu Lys Lys Ser Leu Glu Thr Ala Gly Phe Ser Val His  
 340 345 350  
 Gly Gly Asp His Ala Pro Tyr Leu Trp Val Glu Leu Pro Glu Gly Ile  
 355 360 365  
 Ser Asp Glu Glu Ala Phe Asp Phe Phe Leu His Gln Tyr His Ile Ala  
 370 375 380  
 Val Thr Pro Gly His Gly Phe Gly Ser Cys Gly Gln Gly Phe Val Arg  
 385 390 395 400  
 Phe Ser Ala Leu Thr Gln Pro Gln Asn Ile Ala Leu Ala Cys Asp Arg  
 405 410 415  
 Leu Cys Thr Ala Ser Leu Lys Glu Thr Met Val Leu Ala  
 420 425

<210> 498

<211> 354

<212> PRT

<213> Chlamydia pneumoniae

<400> 498

Pro Pro Leu Tyr Arg Phe Thr Lys Arg Asn Asp Gly Ser Cys Met Thr  
 1 5 10 15  
 Ile Leu Arg Lys Leu Ser Gln Tyr Leu Phe Phe Phe Ser Leu Phe Cys  
 20 25 30  
 Ser Phe Ile Tyr Val Ala Thr Cys Gly Ser Gln Pro Asp Ser Val Ser  
 35 40 45  
 Ser Pro Lys Ile Ala Ile Phe Leu Ser Phe Pro His Pro Leu Leu Glu  
 50 55 60  
 Asp Cys Ser Lys Ser Cys Ile Glu Thr Leu Lys Asp Phe Glu Asn Leu  
 65 70 75 80  
 Pro Glu Ile Val Val Leu Asn Ala Glu Asp Ser Ile Val Lys Ala Arg  
 85 90 95  
 Lys Ile Ala Arg Ser Leu His Thr Asp Lys Asn Val Val Ala Ile Val  
 100 105 110  
 Thr Leu Gly Thr Ile Ala Thr Lys Val Met Ser His Ile Glu Thr Gln  
 115 120 125  
 Lys Pro Val Ile Tyr Ala Ala Val Pro Asp Arg Glu Ser Leu Thr Leu  
 130 135 140  
 Pro Lys Asn Thr Met Asn Ile Tyr Gly Val Asn Asp Thr Leu Asp Ile  
 145 150 155 160  
 Asn Gln Tyr Cys Phe Ala Ile Gln Ala Val Ala Thr Asn Ala Gln Ser  
 165 170 175  
 Ile Val Tyr Leu Lys Pro Ser Glu Pro Phe Pro Ser Asp Leu Gln Lys  
 180 185 190  
 Glu Ile Val Lys Lys Leu His Ala Ser Gly Ile Glu Val Ile Glu Ile  
 195 200 205  
 Ser Ile Thr Ser Ser Thr Phe Lys Thr Arg Ile Arg Gln Ala Ile Asp  
 210 215 220  
 Lys Arg Pro Ser Ala Ile Phe Ile Pro Leu Ser Pro Leu Ser His Lys  
 225 230 235 240  
 Glu Gly Thr Ala Phe Leu Gln Glu Ile Leu Lys Glu Lys Ile Pro Ile  
 245 250 255  
 Ile Thr Asp Asp Thr Ser Leu Ile Ser Glu Gly Ala Cys Ile Ala Cys  
 260 265 270  
 Ser Val Asp Tyr Lys Lys Ser Gly Lys Gln Ile Ala Lys Ile Val His  
 275 280 285  
 His Leu Leu Tyr Asn Asn His Asp Val Asp Ser Leu Arg Lys Ile Ile  
 290 295 300

Ala Gln Arg Leu Ser Pro Thr Thr Thr Phe Asn Glu Asp Ile Ile Lys  
 305 310 315 320  
 Tyr Leu Gly Ile Lys Leu His Lys Thr Glu Arg Asn Gln Phe Leu Ser  
 325 330 335  
 Phe Lys Ser Lys Lys Leu Glu Lys Ser Glu Lys Gly Lys Asn Val Ala  
 340 345 350  
 Val Ser

<210> 499  
 <211> 96  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 499  
 Ile Phe Gln Arg Val Val Leu Asp Asp Ser Trp Ile Leu Glu Val Lys  
 1 5 10 15  
 Val Thr Pro Lys Ala Lys Glu Asn Lys Ile Val Gly Phe Asp Gly Gln  
 20 25 30  
 Ala Leu Lys Val Arg Val Thr Glu Pro Pro Glu Lys Gly Lys Ala Asn  
 35 40 45  
 Asp Ala Val Ile Ser Leu Leu Ala Lys Ala Leu Ser Leu Pro Lys Arg  
 50 55 60  
 Asp Val Thr Leu Ile Ala Gly Glu Thr Ser Arg Lys Lys Lys Phe Leu  
 65 70 75 80  
 Leu Pro Asn Arg Val Gln Asp Ile Ile Phe Ser Leu His Ile Asp Val  
 85 90 95

<210> 500  
 <211> 326  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 500  
 Tyr Cys Arg Leu Arg Arg Ala Pro Phe Met Asn Arg Arg Lys Ala Arg  
 1 5 10 15  
 Trp Val Val Ala Leu Phe Ala Met Thr Ala Leu Ile Ser Val Gly Cys  
 20 25 30  
 Cys Pro Trp Ser Gln Ala Lys Ser Arg Cys Ser Ile Asp Lys Tyr Ile  
 35 40 45  
 Pro Val Val Asn Arg Leu Leu Glu Val Cys Gly Leu Pro Glu Ala Glu  
 50 55 60  
 Asn Val Glu Asp Leu Ile Glu Ser Ser Ser Ala Trp Val Leu Thr Pro  
 65 70 75 80  
 Glu Glu Arg Phe Ser Gly Glu Leu Val Ser Ile Cys Gln Val Lys Asp  
 85 90 95  
 Glu His Ala Phe Tyr Asn Asp Leu Ser Leu Leu His Met Thr Gln Ala  
 100 105 110  
 Val Pro Ser Tyr Ser Ala Thr Tyr Asp Cys Ala Val Val Phe Gly Gly  
 115 120 125  
 Pro Leu Pro Ala Leu Arg Gln Arg Leu Asp Phe Leu Val Arg Glu Trp  
 130 135 140  
 Gln Arg Gly Val Arg Phe Lys Lys Ile Val Phe Leu Cys Gly Glu Arg  
 145 150 155 160  
 Gly Arg Tyr Gln Ser Ile Glu Glu Gln Glu His Phe Phe Asp Ser Arg  
 165 170 175  
 Tyr Asn Pro Phe Pro Thr Glu Glu Asn Trp Glu Ser Gly Asn Arg Val  
 180 185 190  
 Thr Pro Ser Ser Glu Glu Glu Ile Ala Lys Phe Val Trp Met Gln Met  
 195 200 205

Leu	Leu	Pro	Arg	Ala	Trp	Arg	Asp	Ser	Thr	Ser	Gly	Val	Arg	Val	Thr
210						215					220				
Phe	Leu	Leu	Ala	Lys	Pro	Glu	Glu	Asn	Arg	Val	Val	Ala	Asn	Arg	Lys
225					230					235					240
Asp	Thr	Leu	Leu	Leu	Phe	Arg	Ser	Tyr	Gln	Glu	Ala	Phe	Pro	Gly	Arg
				245					250					255	
Val	Leu	Phe	Val	Ser	Ser	Gln	Pro	Phe	Ile	Gly	Leu	Asp	Ala	Cys	Arg
			260					265					270		
Val	Gly	Gln	Phe	Phe	Lys	Gly	Glu	Ser	Tyr	Asp	Leu	Ala	Gly	Pro	Gly
		275					280					285			
Phe	Ala	Gln	Gly	Val	Leu	Lys	Tyr	His	Trp	Ala	Pro	Arg	Ile	Cys	Leu
	290					295					300				
His	Thr	Leu	Ala	Glu	Trp	Leu	Lys	Glu	Thr	Asn	Gly	Cys	Leu	Asn	Ile
305					310					315					320
Ser	Glu	Gly	Cys	Phe	Gly										
					325										

<210> 501  
 <211> 400  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 501

Leu	Ser	Val	Tyr	Leu	Leu	Ile	Phe	Tyr	Phe	Cys	Asn	Cys	Ser	Thr	Met
1				5					10					15	
Ser	Ser	Val	Asn	Gln	Ser	Ser	Gly	Thr	Pro	Asn	Pro	Glu	Glu	Val	Thr
			20					25					30		
Ser	Pro	Glu	Ser	Thr	Glu	Glu	Asn	Lys	Asn	Val	Val	Ser	Ser	Asp	Glu
		35					40					45			
Ala	Gln	Ala	Thr	His	Ala	Val	Ala	Leu	Pro	Ile	Val	Thr	Gln	Leu	Ser
	50					55					60				
Leu	Pro	Glu	Gly	Val	Gly	Thr	Ser	Ser	Glu	Glu	Thr	Ala	Ser	Asn	Pro
65					70					75					80
Arg	Val	Asp	Glu	Ile	Val	Ala	Glu	Val	Ser	Ser	Ser	Arg	Ala	Val	Ala
				85				90						95	
Asp	Gln	Ile	Ser	Ser	Leu	Val	Glu	Arg	Val	Gly	Glu	Leu	Leu	Asp	Asp
			100					105					110		
Leu	Lys	Gly	Ala	Gln	Ser	Leu	Phe	Thr	Ser	Phe	Gln	Ser	Glu	Leu	Lys
		115					120					125			
Asn	Cys	Leu	Pro	Ala	Trp	Lys	Ser	Ser	Thr	Arg	Arg	Leu	Glu	Thr	Arg
		130				135					140				
Gly	Ala	Gly	Asp	Asn	Ala	Asp	Ile	Ala	Arg	Leu	Glu	Leu	Phe	Arg	Ser
145					150					155					160
Asp	Tyr	Glu	Ala	Val	Leu	Gly	His	Ala	Asn	Gln	Phe	His	Gly	Lys	Ala
				165					170					175	
His	Leu	Ile	Leu	Ser	Lys	Leu	Thr	Asp	Val	His	His	Lys	Leu	Gln	Gly
			180					185					190		
Leu	Ser	Arg	Glu	Asp	Leu	Ser	Leu	Ala	Phe	Asp	Asn	Asn	Asp	Arg	Val
		195					200					205			
Leu	Glu	His	Leu	Gly	Ser	Leu	Gly	Leu	Asp	Val	Asp	Ala	Glu	Gly	Asn
	210					215					220				
Trp	Ser	Leu	Ser	Cys	Glu	Arg	Gly	Ile	Pro	Arg	Leu	Val	Leu	Thr	Ala
225					230					235					240
Asp	Ser	Met	Leu	Val	Gln	Ile	Lys	Lys	Val	Asn	Leu	Pro	Thr	Val	Glu
				245					250					255	
Glu	Leu	Arg	Thr	Leu	Gln	Gly	Thr	Thr	Glu	Ser	Ser	Ser	Asp	Pro	Arg
			260					265					270		
Val	Glu	Glu	Ser	Leu	Ser	Cys	Cys	Glu	Arg	Leu	Leu	Asn	Glu	Leu	Arg
		275					280					285			
Arg	Leu	Trp	Ala	Asn	Phe	Val	Gly	Phe	Ile	Ser	Ser	Cys	Tyr	Asp	Asn
	290					295					300				

Ile	Val	Phe	Val	Leu	Met	Trp	Ile	Val	Arg	Arg	Ile	Asn	Leu	Leu	Pro
305					310					315					320
Gly	Leu	Gly	Cys	Leu	Pro	Phe	His	Asn	Pro	Asp	Ala	Ser	Gln	Glu	Asp
				325					330					335	
Gln	Arg	Ser	Ser	Ser	Gly	Glu	Arg	Ser	Thr	Arg	Arg	Glu	Arg	Leu	Ser
			340					345					350		
Arg	Arg	Ser	Asp	Leu	Ser	Glu	Glu	Glu	Met	Ile	Val	Arg	Ala	Glu	Gly
		355					360					365			
Glu	Ser	Ile	His	Pro	Glu	Ser	Pro	His	Gly	Asp	Gly	Arg	Asn	Gln	Pro
	370					375					380				
Ser	Arg	Gly	Asp	Lys	Gln	Asp	Ser	Asp	Ser	Glu	Glu	Glu	Thr	Glu	Leu
385					390					395					400

<210> 502

<211> 572

<212> PRT

<213> Chlamydia pneumoniae

<400> 502

Gln	Pro	His	Ser	Met	Lys	Thr	Ser	Gln	Leu	Phe	Tyr	Lys	Thr	Ser	Lys
1				5					10					15	
Asn	Ala	Asn	Lys	Ser	Ala	Ala	Val	Leu	Ser	Asn	Glu	Leu	Leu	Glu	Lys
			20					25					30		
Ala	Gly	Tyr	Leu	Phe	Lys	Val	Ser	Lys	Gly	Val	Tyr	Thr	Tyr	Thr	Pro
		35					40					45			
Leu	Leu	Trp	Arg	Val	Val	Ser	Lys	Met	Met	Asn	Ile	Ile	Arg	Glu	Glu
	50					55				60					
Leu	Asn	Ala	Ile	Gly	Gly	Gln	Glu	Leu	Leu	Leu	Pro	Leu	Leu	His	Asn
65				70					75					80	
Ala	Glu	Leu	Trp	Gln	His	Thr	Gly	Arg	Trp	Glu	Ala	Phe	Thr	Ser	Glu
			85					90					95		
Gly	Leu	Leu	Tyr	Thr	Leu	Lys	Asp	Arg	Glu	Gly	Lys	Ser	His	Cys	Leu
			100					105					110		
Ala	Pro	Thr	His	Glu	Glu	Val	Ile	Cys	Ser	Phe	Val	Ala	Gln	Trp	Leu
		115					120						125		
Ser	Ser	Lys	Arg	Gln	Leu	Pro	Leu	His	Leu	Tyr	Gln	Ile	Ala	Thr	Lys
		130				135					140				
Phe	Arg	Asp	Glu	Ile	Arg	Pro	Arg	Phe	Gly	Leu	Ile	Arg	Ser	Arg	Glu
145				150					155					160	
Leu	Leu	Met	Glu	Asp	Ser	Tyr	Thr	Phe	Ser	Asp	Ser	Pro	Glu	Gln	Met
			165					170					175		
Asn	Glu	Gln	Tyr	Glu	Lys	Leu	Arg	Ser	Ala	Tyr	Ser	Lys	Ile	Phe	Asp
		180					185						190		
Arg	Leu	Gly	Leu	Ala	Tyr	Val	Ile	Val	Thr	Ala	Asp	Gly	Gly	Lys	Ile
		195				200						205			
Gly	Lys	Gly	Lys	Ser	Glu	Glu	Phe	Gln	Val	Leu	Cys	Ser	Leu	Gly	Glu
	210					215					220				
Asp	Thr	Ile	Cys	Val	Ser	Gly	Ser	Tyr	Gly	Ala	Asn	Ile	Glu	Ala	Ala
225				230					235					240	
Val	Ser	Ile	Pro	Pro	Gln	His	Ala	Tyr	Asp	Arg	Glu	Phe	Leu	Pro	Val
			245						250					255	
Glu	Glu	Val	Ala	Thr	Pro	Gly	Ile	Thr	Thr	Ile	Glu	Ala	Leu	Ala	Asn
		260					265						270		
Phe	Phe	Ser	Ile	Pro	Leu	His	Lys	Ile	Leu	Lys	Thr	Leu	Val	Val	Lys
		275					280					285			
Leu	Ser	Tyr	Ser	Asn	Glu	Glu	Lys	Phe	Ile	Ala	Ile	Gly	Met	Arg	Gly
	290					295					300				
Asp	Arg	Gln	Val	Asn	Leu	Val	Lys	Val	Ala	Ser	Lys	Leu	Asn	Ala	Asp
305				310					315					320	
Asp	Ile	Ala	Leu	Ala	Ser	Asp	Glu	Glu	Ile	Glu	Arg	Val	Leu	Gly	Thr
			325						330					335	



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<210> 503
<211> 409
<212> PRT
<213> Chlamydia pneumoniae
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773

Thr	Leu	Trp	Leu	Pro	Glu	Ala	Cys	Asp	Thr	Leu	Ser	Ile	Lys	Arg	Ile
	195						200					205			
Glu	Lys	Phe	Leu	Gln	Asn	Tyr	Ile	Arg	Lys	Leu	Pro	Thr	Asn	Glu	Glu
	210					215					220				
Leu	Ser	Lys	Lys	Glu	Glu	His	Leu	Ser	Met	Ser	Leu	Tyr	Asn	Glu	Val
225					230					235				240	
Val	Val	Arg	Tyr	Leu	Thr	Arg	Tyr	Cys	Asn	Phe	Ser	Glu	Glu	Asp	Leu
				245					250					255	
Tyr	Gln	Thr	Gly	Met	Ser	Lys	Leu	Leu	Lys	Tyr	Glu	Ala	Phe	Lys	Asp
			260					265						270	
Pro	Glu	Val	Leu	Ala	Leu	Gly	Leu	Ser	Leu	Phe	Glu	Asn	Arg	Arg	Gln
		275					280					285			
Met	Cys	Glu	Leu	Leu	Asn	Ile	Gly	Met	His	Lys	Gly	Arg	Ala	Thr	Ala
	290					295					300				
Phe	Ile	Gly	Lys	Glu	Leu	Ser	Asp	Ile	Leu	Gly	Thr	Ser	Asn	Pro	Gly
305					310					315					320
Cys	Ser	Val	Ile	Thr	Ile	Pro	Tyr	Tyr	Met	Asn	Arg	Ser	Pro	Leu	Gly
				325					330					335	
Ala	Leu	Gly	Ile	Leu	Gly	Pro	Ile	Asn	Leu	Pro	Tyr	Lys	Glu	Ala	Leu
			340					345					350		
Pro	Leu	Leu	Lys	Leu	Phe	Ala	Asn	Lys	Ile	Asn	Glu	Thr	Leu	Thr	Gln
		355					360					365			
Ser	Phe	Tyr	Lys	Phe	Lys	Leu	Ser	Phe	Arg	Arg	Pro	Leu	Thr	Ser	Asn
	370					375					380				
Cys	Lys	Leu	Ser	Asn	Glu	Pro	Ile	Leu	Arg	Thr	Glu	Tyr	Ser	Ser	Ile
385					390					395					400
Lys	Leu	Leu	Pro	Ser	Lys	Glu	Thr	Leu							
				405											

<210> 504

<211> 187

<212> PRT

<213> Chlamydia pneumoniae

<400> 504

Gly	Asp	Val	Met	Thr	Asp	Thr	Pro	Pro	Glu	Asn	Glu	Glu	Gln	His	Glu
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Ser	Asn	Val	Gln	Asn	Glu	Asn	Glu	Val	Glu	His	Leu	Gln	Gln	Glu	Ile
		20						25					30		
Val	Thr	Leu	Lys	Thr	Glu	Leu	Lys	Glu	Lys	Asn	Asp	Lys	Tyr	Leu	Met
		35					40					45			
Ala	Leu	Ala	Glu	Ser	Glu	Asn	Ser	Arg	Lys	Arg	Leu	Gln	Lys	Glu	Arg
	50					55					60				
Gln	Glu	Leu	Met	Gln	Tyr	Ala	Leu	Glu	Asn	Thr	Leu	Ile	Asp	Phe	Leu
65					70					75					80
Asn	Pro	Ile	Glu	Ser	Met	Glu	Lys	Ala	Leu	Gly	Phe	Ala	Thr	Gln	Met
			85						90					95	
Ser	Asp	Asp	Val	Lys	Asn	Trp	Ala	Leu	Gly	Phe	Asn	Met	Ile	Leu	Asn
			100					105					110		
Gln	Phe	Lys	Gln	Ile	Phe	Glu	Glu	Lys	Gly	Ile	Ile	Glu	Tyr	Ser	Ser
		115					120					125			
Ile	Gly	Gln	Lys	Phe	Asn	Pro	Phe	Leu	His	Glu	Ala	Val	Gln	Thr	Glu
	130					135					140				
Glu	Thr	Ser	Glu	Val	Pro	Glu	Gly	Thr	Ile	Leu	Glu	Glu	Phe	Ala	Lys
145					150					155					160
Gly	Tyr	Lys	Ile	Gly	Glu	Arg	Pro	Ile	Arg	Val	Ala	Lys	Val	Lys	Val
				165					170					175	
Ala	Lys	Ala	Pro	Thr	Pro	Lys	Glu	Asn	Lys	Glu					
			180					185							

<210> 505  
 <211> 663  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 505  
 Val Pro Asn Met Ser Glu His Lys Lys Ser Ser Lys Ile Ile Gly Ile  
 1 5 10 15  
 Asp Leu Gly Thr Thr Asn Ser Cys Val Ser Val Met Glu Gly Gly Gln  
 20 25 30  
 Ala Lys Val Ile Thr Ser Ser Glu Gly Thr Arg Thr Thr Pro Ser Ile  
 35 40 45  
 Val Ala Phe Lys Gly Asn Glu Lys Leu Val Gly Ile Pro Ala Lys Arg  
 50 55 60  
 Gln Ala Val Thr Asn Pro Glu Lys Thr Leu Gly Ser Thr Lys Arg Phe  
 65 70 75 80  
 Ile Gly Arg Lys Tyr Ser Glu Val Ala Ser Glu Ile Gln Thr Val Pro  
 85 90 95  
 Tyr Thr Val Thr Ser Gly Ser Lys Gly Asp Ala Val Phe Glu Val Asp  
 100 105 110  
 Gly Lys Gln Tyr Thr Pro Glu Glu Ile Gly Ala Gln Ile Leu Met Lys  
 115 120 125  
 Met Lys Glu Thr Ala Glu Ala Tyr Leu Gly Glu Thr Val Thr Glu Ala  
 130 135 140  
 Val Ile Thr Val Pro Ala Tyr Phe Asn Asp Ser Gln Arg Ala Ser Thr  
 145 150 155 160  
 Lys Asp Ala Gly Arg Ile Ala Gly Leu Asp Val Lys Arg Ile Ile Pro  
 165 170 175  
 Glu Pro Thr Ala Ala Ala Leu Ala Tyr Gly Ile Asp Lys Val Gly Asp  
 180 185 190  
 Lys Lys Ile Ala Val Phe Asp Leu Gly Gly Gly Thr Phe Asp Ile Ser  
 195 200 205  
 Ile Leu Glu Ile Gly Asp Gly Val Phe Glu Val Leu Ser Thr Asn Gly  
 210 215 220  
 Asp Thr Leu Leu Gly Gly Asp Asp Phe Asp Glu Val Ile Ile Lys Trp  
 225 230 235 240  
 Met Ile Glu Glu Phe Lys Lys Gln Glu Gly Ile Asp Leu Ser Lys Asp  
 245 250 255  
 Asn Met Ala Leu Gln Arg Leu Lys Asp Ala Ala Glu Lys Ala Lys Ile  
 260 265 270  
 Glu Leu Ser Gly Val Ser Ser Thr Glu Ile Asn Gln Pro Phe Ile Thr  
 275 280 285  
 Met Asp Ala Gln Gly Pro Lys His Leu Ala Leu Thr Leu Thr Arg Ala  
 290 295 300  
 Gln Phe Glu Lys Leu Ala Ala Ser Leu Ile Glu Arg Thr Lys Ser Pro  
 305 310 315 320  
 Cys Ile Lys Ala Leu Ser Asp Ala Lys Leu Ser Ala Lys Asp Ile Asp  
 325 330 335  
 Asp Val Leu Leu Val Gly Gly Met Ser Arg Met Pro Ala Val Gln Glu  
 340 345 350  
 Thr Val Lys Glu Leu Phe Gly Lys Glu Pro Asn Lys Gly Val Asn Pro  
 355 360 365  
 Asp Glu Val Val Ala Ile Gly Ala Ala Ile Gln Gly Gly Val Leu Gly  
 370 375 380  
 Gly Glu Val Lys Asp Val Leu Leu Leu Asp Val Ile Pro Leu Ser Leu  
 385 390 395 400  
 Gly Ile Glu Thr Leu Gly Gly Val Met Thr Thr Leu Val Glu Arg Asn  
 405 410 415  
 Thr Thr Ile Pro Thr Gln Lys Lys Gln Ile Phe Ser Thr Ala Ala Asp  
 420 425 430

Asn	Gln	Pro	Ala	Val	Thr	Ile	Val	Val	Leu	Gln	Gly	Glu	Arg	Pro	Met
		435					440					445			
Ala	Lys	Asp	Asn	Lys	Glu	Ile	Gly	Arg	Phe	Asp	Leu	Thr	Asp	Ile	Pro
	450					455					460				
Pro	Ala	Pro	Arg	Gly	His	Pro	Gln	Ile	Glu	Val	Ser	Phe	Asp	Ile	Asp
465					470					475					480
Ala	Asn	Gly	Ile	Phe	His	Val	Ser	Ala	Lys	Asp	Val	Ala	Ser	Gly	Lys
				485					490						495
Glu	Gln	Lys	Ile	Arg	Ile	Glu	Ala	Ser	Ser	Gly	Leu	Gln	Glu	Asp	Glu
			500					505						510	
Ile	Gln	Arg	Met	Val	Arg	Asp	Ala	Glu	Ile	Asn	Lys	Glu	Glu	Asp	Lys
		515					520					525			
Lys	Arg	Arg	Glu	Ala	Ser	Asp	Ala	Lys	Asn	Glu	Ala	Asp	Ser	Met	Ile
	530					535					540				
Phe	Arg	Ala	Glu	Lys	Ala	Ile	Lys	Asp	Tyr	Lys	Glu	Gln	Ile	Pro	Glu
545					550					555					560
Thr	Leu	Val	Lys	Glu	Ile	Glu	Glu	Arg	Ile	Glu	Asn	Val	Arg	Asn	Ala
				565					570						575
Leu	Lys	Asp	Asp	Ala	Pro	Ile	Glu	Lys	Ile	Lys	Glu	Val	Thr	Glu	Asp
			580					585						590	
Leu	Ser	Lys	His	Met	Gln	Lys	Ile	Gly	Glu	Ser	Met	Gln	Ser	Gln	Ser
		595					600					605			
Ala	Ser	Ala	Ala	Ala	Ser	Ser	Ala	Ala	Asn	Ala	Lys	Gly	Gly	Pro	Asn
	610					615					620				
Ile	Asn	Thr	Glu	Asp	Leu	Lys	Lys	His	Ser	Phe	Ser	Thr	Lys	Pro	Pro
625					630					635					640
Ser	Asn	Asn	Gly	Ser	Ser	Glu	Asp	His	Ile	Glu	Glu	Ala	Asp	Val	Glu
			645						650						655
Ile	Ile	Asp	Asn	Asp	Asp	Lys									
			660												

<210> 506

<211> 699

<212> PRT

<213> Chlamydia pneumoniae

<400> 506

Ala	Thr	Gln	Phe	Thr	Ser	Glu	Thr	Thr	Gly	Phe	Leu	Val	Gln	Cys	Pro
1				5					10					15	
Lys	Leu	Thr	Gly	Gly	Ala	Gln	Leu	Leu	Lys	Lys	Pro	Lys	Arg	Lys	Pro
			20					25					30		
Gly	Arg	Arg	Thr	Tyr	Gly	Lys	Ser	Leu	Lys	Ile	Phe	Ile	Pro	Gly	Thr
	35					40					45				
Leu	Phe	Val	His	Ala	Arg	Lys	Gly	Phe	Gly	Phe	Val	Ser	Pro	Asp	Asn
	50					55				60					
Pro	Glu	Glu	Tyr	Pro	Phe	Asp	Ile	Phe	Val	Pro	Ala	Arg	Asp	Leu	Arg
65					70					75					80
Gly	Ala	Leu	Asp	Gly	Asp	His	Val	Ile	Val	Ser	Val	Leu	Pro	Tyr	Pro
			85						90					95	
Arg	Asp	Gly	Gln	Lys	Leu	Lys	Gly	Thr	Ile	Ser	Glu	Val	Leu	Ala	Arg
			100					105						110	
Gly	Lys	Thr	Thr	Leu	Val	Gly	Thr	Ile	Thr	Ser	Leu	Val	Ser	Pro	Thr
		115				120						125			
Ser	Ala	Leu	Ala	Tyr	Thr	Ser	Met	Ser	Gly	Ser	Gln	Ser	Leu	Ile	Pro
	130					135					140				
Val	Glu	Leu	Leu	Pro	Gly	Arg	Thr	Tyr	Lys	Ile	Gly	Asp	Arg	Ile	Leu
145					150					155					160
Leu	Ser	Thr	Pro	Pro	Trp	Val	Asp	Lys	Pro	Gln	Glu	Gly	Ala	Ser	Pro
			165					170						175	
Ala	Leu	Gln	Met	Leu	Glu	Phe	Ile	Gly	His	Ile	Thr	Asn	Ala	Lys	Ala
			180					185						190	

Asp	Phe	Gln	Ala	Ile	Gln	Ala	Glu	Tyr	Asn	Leu	Ala	Glu	Glu	Phe	Pro
	195						200					205			
Pro	Glu	Val	Ile	Glu	Glu	Ala	Ser	Leu	Phe	Ser	Gln	Lys	His	Ile	Thr
	210					215					220				
Gln	Val	Leu	His	Ser	Arg	Lys	Asp	Leu	Arg	Asp	Leu	Leu	Cys	Phe	Thr
225					230					235					240
Ile	Asp	Ser	Ser	Thr	Ala	Arg	Asp	Phe	Asp	Asp	Ala	Ile	Ser	Leu	Thr
				245					250					255	
Tyr	Asp	His	Asn	Asn	Asn	Tyr	Ile	Leu	Gly	Val	His	Ile	Ala	Asp	Val
			260					265					270		
Ser	His	Tyr	Val	Thr	Pro	His	Ser	His	Leu	Asp	Lys	Glu	Ala	Ala	Lys
		275					280					285			
Arg	Cys	Asn	Ser	Thr	Tyr	Phe	Pro	Gly	Lys	Val	Ile	Pro	Met	Leu	Pro
	290					295					300				
Ser	Ala	Leu	Ser	Asp	Asn	Leu	Cys	Ser	Leu	Lys	Pro	Asn	Val	Asp	Arg
305					310					315					320
Leu	Ala	Val	Ser	Val	Phe	Met	Thr	Phe	Thr	Lys	Ser	Gly	His	Leu	Ser
				325					330					335	
Asp	Tyr	Gln	Ile	Phe	Arg	Ser	Val	Ile	Arg	Ser	Lys	Tyr	Arg	Met	Thr
		340						345					350		
Tyr	Asp	Glu	Val	Asp	Asn	Ile	Ile	Glu	Lys	Lys	His	Ser	His	Pro	Leu
		355					360					365			
Ser	Lys	Ile	Leu	Asn	Glu	Met	Ala	Thr	Leu	Ser	Lys	Lys	Phe	Ser	Asp
	370					375					380				
Ile	Arg	Glu	Glu	Arg	Gly	Cys	Ile	Arg	Phe	Val	Leu	Pro	Ser	Val	Thr
385					390					395					400
Met	Ser	Leu	Asp	Asn	Leu	Gln	Glu	Pro	Val	Ala	Leu	Ile	Glu	Asn	His
			405					410					415		
Gln	Thr	Phe	Ser	His	Lys	Leu	Ile	Glu	Glu	Phe	Met	Leu	Lys	Ala	Asn
		420						425					430		
Glu	Val	Val	Ala	Tyr	His	Ile	Ser	His	Gln	Gly	Val	Ser	Leu	Pro	Phe
		435					440					445			
Arg	Ser	His	Glu	Pro	Pro	Asn	Asp	Glu	Asn	Leu	Leu	Ala	Phe	Gln	Glu
	450					455					460				
Leu	Ala	Lys	Asn	Met	Gly	Phe	Asp	Ile	Thr	Phe	Thr	Pro	Thr	Gln	Glu
465					470					475					480
Pro	Asp	Tyr	Gln	Tyr	Leu	Leu	Gln	Thr	Thr	Ser	Ala	Gly	His	Pro	Leu
			485					490						495	
Glu	Gln	Val	Leu	His	Ser	Gln	Phe	Val	Arg	Ser	Met	Lys	Thr	Ala	Ser
		500						505					510		
Tyr	Ser	Thr	Glu	Asn	Lys	Gly	His	Tyr	Gly	Leu	Lys	Leu	Asp	Tyr	Tyr
		515					520					525			
Thr	His	Phe	Thr	Ser	Pro	Ile	Arg	Arg	Tyr	Ile	Asp	Leu	Ile	Val	His
	530					535					540				
Arg	Leu	Leu	Phe	Asn	Pro	Leu	Ser	Ile	Asp	Gln	Thr	His	Leu	Glu	Ile
545					550					555					560
Ile	Val	Arg	Ala	Cys	Ser	Thr	Lys	Glu	Arg	Val	Ser	Ala	Lys	Ala	Glu
			565						570					575	
Asn	Ser	Phe	Glu	Asn	Leu	Lys	Lys	Thr	Arg	Phe	Ile	Asn	Lys	Phe	Leu
		580						585					590		
Gln	Glu	Gln	Pro	Lys	Thr	Thr	Tyr	His	Ala	Tyr	Ile	Ile	Thr	Ala	Asn
		595					600					605			
His	Glu	Gly	Leu	Ser	Phe	Val	Val	Thr	Glu	Phe	Cys	His	Glu	Gly	Phe
	610					615					620				
Ile	Ala	Ala	Ala	Glu	Leu	Pro	Lys	Glu	Tyr	Ser	Leu	Lys	Lys	Asn	Ala
625					630					635					640
Leu	Pro	Glu	Ser	Ile	Pro	Asp	Lys	Met	Lys	Pro	Gly	Ala	Ser	Ile	Lys
			645						650					655	
Val	Thr	Ile	Asp	Ser	Val	Asn	Leu	Leu	Thr	Gln	Lys	Ile	Val	Trp	Ser
			660					665					670		

Ile Ala Thr Thr Thr Glu Asp Lys Pro Lys Lys Ile Lys Lys Thr Pro  
675 680 685  
Ser Lys Lys Lys Gly Thr Lys Lys Arg Ala Ser  
690 695

<210> 507  
<211> 212  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 507  
Arg Lys Arg Leu Leu Arg Lys Lys Glu Arg Lys Lys Glu Pro Arg Asn  
1 5 10 15  
Val Leu Gln Glu His Phe Phe Leu Ser Glu Asp Val Ile Thr Leu Ala  
20 25 30  
Gln Gln Leu Leu Gly His Lys Leu Ile Thr Thr His Glu Gly Leu Ile  
35 40 45  
Thr Ser Gly Tyr Ile Val Glu Thr Glu Ala Tyr Arg Gly Pro Asp Asp  
50 55 60  
Lys Ala Cys His Ala Tyr Asn Tyr Arg Lys Thr Gln Arg Asn Arg Ala  
65 70 75 80  
Met Tyr Leu Lys Gly Gly Ser Ala Tyr Leu Tyr Arg Cys Tyr Gly Met  
85 90 95  
His His Leu Leu Asn Val Val Thr Gly Pro Glu Asp Ile Pro His Ala  
100 105 110  
Val Leu Ile Arg Ala Ile Leu Pro Asp Gln Gly Lys Glu Leu Met Ile  
115 120 125  
Gln Arg Arg Gln Trp Arg Asp Lys Pro Pro His Leu Leu Thr Asn Gly  
130 135 140  
Pro Gly Lys Val Cys Gln Ala Leu Gly Ile Ser Leu Glu Asn Asn Arg  
145 150 155 160  
Gln Arg Leu Asn Thr Pro Ala Leu Tyr Ile Ser Lys Glu Lys Ile Ser  
165 170 175  
Gly Thr Leu Thr Ala Thr Ala Arg Ile Gly Ile Asp Tyr Ala Gln Glu  
180 185 190  
Tyr Arg Asp Val Pro Trp Arg Phe Leu Leu Ser Pro Glu Asp Ser Gly  
195 200 205  
Lys Val Leu Ser  
210

<210> 508  
<211> 262  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 508  
Cys Pro Met Glu Ile Ser Pro Ile Pro Arg Arg Phe Gly Lys Ser Phe  
1 5 10 15  
Ile Leu Asn Asn Leu Lys Leu Tyr Ser Lys Glu Thr Asn Ala His Phe  
20 25 30  
Leu Ile Ser Cys Arg Arg Ile Met Lys Lys Tyr Phe Ile Thr Gly Leu  
35 40 45  
Val Ile Leu Leu Pro Leu Ala Ile Thr Ile Ala Ile Val Thr Met Ile  
50 55 60  
Met Asn Phe Leu Thr Gln Pro Phe Val Gly Leu Ala Ser Glu Phe Phe  
65 70 75 80  
Glu Lys Phe Ser Phe Tyr Thr Lys His Arg Ala Leu Leu Lys Phe Val  
85 90 95  
Leu Gln Ile Ile Leu Leu Phe Gly Leu Phe Phe Ala Thr Val Leu Leu  
100 105 110

Gly Phe Leu Thr Arg Ile Met Ile Phe Lys Ser Leu Leu Ser Ile Tyr  
           115                  120                  125  
 Asp Lys Ile Leu His Arg Ile Pro Ile Ile Lys Thr Val Tyr Lys Ala  
       130                  135                  140  
 Ala Gln Gln Val Met Thr Thr Ile Phe Gly Ser Lys Ser Gly Ser Phe  
       145                  150                  155                  160  
 Lys Gln Val Val Met Val Pro Phe Pro Asn Ala Asn Val Gln Cys Ile  
                   165                  170                  175  
 Gly Leu Val Ala Gly Asp Ala Pro Thr Val Cys Cys Thr Gly Glu Lys  
                   180                  185                  190  
 Glu Asp Asp Pro Leu Val Thr Val Phe Ile Pro Thr Thr Pro Asn Pro  
           195                  200                  205  
 Thr Ser Gly Phe Leu Thr Leu Phe Arg Lys Ser Asp Ile Val Phe Leu  
       210                  215                  220  
 Asp Met Lys Ile Glu Asp Ala Phe Lys Tyr Ile Ile Ser Cys Gly Val  
       225                  230                  235                  240  
 Leu Ser Thr Pro Met Ala Cys Pro Ser Ser Pro Leu Pro Asp Glu Leu  
                   245                  250                  255  
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 His Gln Asp Gln Gly Ser  
                   260

<210> 509  
 <211> 75  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 509  
 Ser Thr Pro Tyr Pro Gln Phe Pro Leu Ser Gly Glu Ile Lys Lys Phe  
   1                  5                  10                  15  
 Asn Ile Glu Leu Phe Met Thr Arg Met Ser Lys Gln Ala Arg Arg Arg  
           20                  25                  30  
 Ala Lys Ser Pro Lys Lys Arg Lys Pro Lys Tyr Ala Ile Val His Pro  
       35                  40                  45  
 Ala Pro Ala Pro Arg Ile Val Tyr Lys Leu His Thr Asn Ala Leu Ser  
       50                  55                  60  
 Thr Ser Asp Ser Ile Phe Ile Pro Lys Ile Gly  
   65                  70                  75

<210> 510  
 <211> 56  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 510  
 Ser Arg Ile Met Ser Arg His Arg Ser Tyr Gly Lys Ser Val Lys Gly  
   1                  5                  10                  15  
 Val Thr Lys Arg Asn Val Leu Lys Arg Phe Glu Arg Val Glu Val Leu  
           20                  25                  30  
 Arg Lys Leu Gly Arg Trp Asn Asp Ser Thr Ala Lys Lys Val Thr Gly  
       35                  40                  45  
 Leu Pro Lys Thr Pro Ile Leu Lys  
       50                  55

<210> 511  
 <211> 170  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 511  
 Asn Lys Phe Val Phe Leu Tyr Gly Asn Phe Ile Arg Val Thr Gln Glu  
   1                  5                  10                  15

Lys Ile Lys Ile His Val Ser Asn Glu Gln Thr Cys Ile Pro Ile His  
 20 25 30  
 Leu Val Ser Val Glu Lys Leu Val Leu Thr Leu Leu Glu His Leu Lys  
 35 40 45  
 Val Thr Thr Asn Glu Ile Phe Ile Tyr Phe Leu Glu Asp Lys Ala Leu  
 50 55 60  
 Ala Glu Leu His Asp Lys Val Phe Ala Asp Pro Ser Leu Thr Asp Thr  
 65 70 75 80  
 Ile Thr Leu Pro Ile Asp Ala Pro Gly Asp Pro Ala Tyr Pro His Val  
 85 90 95  
 Leu Gly Glu Ala Phe Ile Ser Pro Gln Ala Ala Leu Arg Phe Leu Glu  
 100 105 110  
 Asn Thr Ser Pro Asn Gln Glu Asp Ile Tyr Glu Glu Ile Ser Arg Tyr  
 115 120 125  
 Leu Val His Ser Ile Leu His Met Leu Gly Tyr Asp Asp Thr Ser Ser  
 130 135 140  
 Glu Glu Lys Arg Lys Met Arg Val Lys Glu Asn Gln Ile Leu Cys Met  
 145 150 155 160  
 Leu Arg Lys Lys His Ala Leu Leu Thr Ala  
 165 170

<210> 512  
 <211> 390  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 512  
 Gln Leu Asn Met Leu His Ile Leu Leu Ala Ile Phe Cys Ile Leu Leu  
 1 5 10 15  
 Phe Leu Ala Phe Gly Leu Thr Gln Pro Ser Cys His Gly Ser Ser Lys  
 20 25 30  
 Phe Leu Lys Thr Leu Asn Gln Arg Phe Phe Lys Asp Lys Gly Arg Glu  
 35 40 45  
 Tyr Pro Pro Phe Pro Ser Ala Pro Thr Ile Leu Ala Thr Leu Leu Cys  
 50 55 60  
 Ile Leu Tyr Gly Ala Leu Gly Thr Lys Leu Tyr Thr Leu Leu Pro Pro  
 65 70 75 80  
 Lys Thr Ala His Lys Asp Leu Leu Phe Trp Pro Leu Tyr Ser Leu Ser  
 85 90 95  
 Ala Leu Ile Ala Tyr Gly Phe Leu Pro Pro Trp Ile Ser Thr Lys Val  
 100 105 110  
 Pro Lys Glu Thr Thr Ala His Leu Arg Phe Leu Ala Ser Val Phe Gln  
 115 120 125  
 Leu Gly Leu Phe Pro Leu Gln Leu Leu Phe Tyr Arg Arg Arg Pro Asn  
 130 135 140  
 Gln Gln Val Arg Ser Ser Thr Ser Phe Gln Ser Gln Leu Ser Glu Ala  
 145 150 155 160  
 Leu Ser Ala Phe Asp Asn Leu Ile Val Arg Glu Val Met Ile Pro Lys  
 165 170 175  
 Val Asp Ile Phe Ala Leu Pro Glu Glu Thr Thr Leu Gln Glu Ala Leu  
 180 185 190  
 Val Leu Val Ser Glu Glu Gly Tyr Ser Arg Val Pro Val Tyr Lys Lys  
 195 200 205  
 Asn Leu Asp Asn Ile Thr Gly Ile Leu Leu Val Lys Asp Leu Leu Leu  
 210 215 220  
 Leu Tyr Thr Ser Ser His Asp Leu Ser Gln Pro Ile Ser Ser Val Ala  
 225 230 235 240  
 Lys Pro Pro Phe Tyr Ala Pro Glu Ile Lys Lys Ala Ser Ser Leu Leu  
 245 250 255  
 Gln Glu Phe Arg Gln Lys His Arg His Leu Ala Ile Ile Val Asn Glu  
 260 265 270



Tyr Gly Phe Thr Glu Gly Ile Ala Thr Met Glu Asp Ile Ile Glu Glu  
           275                          280                          285  
 Ile Ile Gly Glu Ile Ala Asp Glu His Asp Val Gln Glu Asn Thr Pro  
           290                          295                          300  
 Tyr Lys Lys Ile Gly Ser Ser Trp Ile Val Asp Gly Arg Met Asn Ile  
 305                          310                          315                          320  
 Ser Asp Ala Glu Glu Tyr Phe Asn Leu Lys Ile Asp His Glu Asn Ser  
                           325                          330                          335  
 Tyr Asp Thr Leu Gly Gly His Val Phe His Lys Val Gly Ala Val Pro  
                           340                          345                          350  
 Gln Lys Gly Met Arg Ile His His Glu Asn Phe Asp Ile Glu Ile Ile  
                           355                          360                          365  
 Thr Cys Thr Glu Arg Asn Val Gly Lys Leu Lys Ile Thr Pro Arg Lys  
           370                          375                          380  
 Arg Lys Phe Asn Ile Ser  
 385                          390

<210> 513  
 <211> 116  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 513  
 Met Ser Asp Ile Gln Lys Glu Glu His Gly Ser Thr Thr Ile Phe His  
 1                          5                          10                          15  
 Leu His Gly Lys Leu Asp Gly Ile Ser Ser Pro Glu Val Gln Glu Asn  
           20                          25                          30  
 Ile Ser Gln Ser Leu Ala Ala Gly Ser Lys Asn Ile Ile Leu Asp Cys  
           35                          40                          45  
 Ala His Leu Asp Tyr Met Ser Ser Ala Gly Ile Arg Val Leu Leu Gln  
           50                          55                          60  
 Ser Tyr His Gln Val Gly Gln His Ser Gly Lys Ile Val Leu Thr Thr  
 65                          70                          75                          80  
 Val Pro Lys Thr Ile Glu Gln Thr Leu Tyr Val Thr Gly Phe Leu Ser  
                           85                          90                          95  
 Tyr Phe Lys Ile Phe Asn Thr Val Asp Glu Ala Ile Gln Thr Leu Asn  
           100                          105                          110  
 Lys Asp Gly Asp  
           115

<210> 514  
 <211> 625  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 514  
 Ser Leu Pro Leu Thr Met Arg Arg Ser Val Cys Tyr Val Asn Pro Ser  
 1                          5                          10                          15  
 Ile Ala Arg Ala Gly Gln Ile Ser Thr Trp Lys Phe Leu Tyr Ser Leu  
           20                          25                          30  
 Ala Thr Pro Leu Pro Ala Gly Thr Lys Cys Lys Phe Asp Leu Ala Gly  
           35                          40                          45  
 Ser Gly Lys Pro Thr Asp Trp Glu Ala Pro Ala Thr Asp Leu Ser Gln  
           50                          55                          60  
 Thr Arg Asn Val Ile Tyr Ala Glu Met Pro Glu Gly Glu Ile Ile Glu  
 65                          70                          75                          80  
 Ala Thr Ala Ile Pro Val Lys Asp Asn Pro Val Pro Gln Phe Glu Phe  
                           85                          90                          95  
 Thr Leu Pro Tyr Glu Leu Gln Val Gly Glu Thr Leu Thr Ile Val Met  
           100                          105                          110



Asp Pro Asn Gly Lys Ala Pro Phe Val Phe Tyr Tyr Leu Arg Val Thr  
 595 600 605  
 Gln Ala Asp Asn Ala Met Ala Trp Ser Ser Pro Ile Trp Val Asp Leu  
 610 615 620  
 Asn  
 625

<210> 515  
 <211> 413  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 515  
 Val Pro Ile Cys Leu Ala Gly Pro Ser Leu Lys Gly Val Lys Asn Gln  
 1 5 10 15  
 Ile Ala Ala Lys Lys Lys His Val Thr Lys Gln Ser Thr Val Leu Gln  
 20 25 30  
 --- Asn Leu Glu Arg Ile Val His Gln Ser Val His Gln Met Thr Thr Cys ---  
 35 40 45  
 Leu Pro Gln Pro Pro Lys Thr Ser Pro Leu Tyr Ser Ile Phe Glu Lys  
 50 55 60  
 Leu Asp Ala Gln Glu Arg Leu Ser Ser Glu Asp Ala Leu His Leu Leu  
 65 70 75 80  
 Leu Leu Thr Asn Lys Glu Asp Gln Arg Thr Leu Trp Asn Phe Ala Asp  
 85 90 95  
 Gln Val Arg Lys Gln Arg Val Gly Asp Thr Val Tyr Tyr Ser Ser Thr  
 100 105 110  
 Leu Tyr Leu Tyr Pro Thr Asn Phe Cys Asp Phe Ser Cys Lys Phe Cys  
 115 120 125  
 Ser Phe Tyr Ala Lys Pro Gly Asp Pro Lys Gly Trp Leu Tyr Ser Pro  
 130 135 140  
 Asp Asp Leu Leu Gln Gln Ile Gln Asn Ile Lys Thr Pro Ile Thr Glu  
 145 150 155 160  
 Val His Ile Val Gly Cys Phe Pro Ser Cys Asn Leu Gln Tyr Tyr  
 165 170 175  
 Ser Asp Leu Phe Thr Lys Ile Lys Glu Tyr Asp Pro Gln Ile His Ile  
 180 185 190  
 Lys Ala Leu Thr Ala Ile Glu Tyr Ala Tyr Leu Ser Asp Leu Asp Asn  
 195 200 205  
 Leu Ser Ile Arg Asp Val Leu Leu Thr Leu Lys Asp Ala Gly Leu Asp  
 210 215 220  
 Ser Ile Pro Gly Gly Gly Ala Glu Ile Leu Val Asp Lys Ile Arg Asn  
 225 230 235 240  
 Phe Leu Ala Pro Lys Arg Leu Ser Ser Ser Asp Phe Leu Asn Ile His  
 245 250 255  
 Lys Met Ala His Gln Leu Gly Ile His Ser Asn Ile Thr Met Leu Cys  
 260 265 270  
 Tyr His Lys Glu Gly Pro Glu Asp Leu Val Thr His Met Val Lys Val  
 275 280 285  
 Arg Asp Leu Gln Asp Glu Thr Gln Gly Phe Lys Asn Phe Ile Leu Leu  
 290 295 300  
 Lys Phe Ala Gln Glu Asn Asn Val Leu Gly Lys Arg Leu Arg Lys Ser  
 305 310 315 320  
 Gly Gln Gly His Ala Ile Pro Leu Lys Ser Leu Met Ala Val Ala Arg  
 325 330 335  
 Ile Phe Leu Asp Asn Phe Ser Asn Met Lys Ala Leu Trp Asn Tyr Leu  
 340 345 350  
 Gly Ile Glu Ala Ala Leu Asp Leu Leu Ser Cys Gly Ala Asn Asp Leu  
 355 360 365  
 Ser Ser Thr His Met Gly Glu Lys Val Phe Gln Met Ala Ser Ser Lys  
 370 375 380

Glu Pro Ile Lys Met Asp Ala Glu Gly Met Ala Ala Leu Ile Thr Gln  
 385 390 395 400  
 Gln Gly Arg Thr Pro Cys Leu Thr Asn Ser Ser His Val  
 405 410

<210> 516  
 <211> 277  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 516  
 Gly Asn Gly Gly Pro His His Thr Thr Arg Glu Asn Ala Met Ser Asn  
 1 5 10 15  
 Gln Leu Gln Pro Cys Ile Ser Leu Gly Cys Val Ser Tyr Ile Asn Ser  
 20 25 30  
 Phe Pro Leu Ser Leu Gln Leu Ile Lys Arg Asn Asp Ile Arg Cys Val  
 35 40 45  
 Leu Ala Pro Pro Ala Asp Leu Leu Asn Leu Leu Ile Glu Gly Lys Leu  
 50 55 60  
 Asp Val Ala Leu Thr Ser Ser Leu Gly Ala Ile Ser His Asn Leu Gly  
 65 70 75 80  
 Tyr Val Pro Gly Phe Gly Ile Ala Ala Asn Gln Arg Ile Leu Ser Val  
 85 90 95  
 Asn Leu Tyr Ala Ala Pro Thr Phe Phe Asn Ser Pro Gln Pro Arg Ile  
 100 105 110  
 Ala Ala Thr Leu Glu Ser Arg Ser Ser Ile Gly Leu Leu Lys Val Leu  
 115 120 125  
 Cys Arg His Leu Trp Arg Ile Pro Thr Pro His Ile Leu Arg Phe Ile  
 130 135 140  
 Thr Thr Lys Val Leu Arg Gln Thr Pro Glu Asn Tyr Asp Gly Leu Leu  
 145 150 155 160  
 Leu Ile Gly Asp Ala Ala Leu Gln His Pro Val Leu Pro Gly Phe Val  
 165 170 175  
 Thr Tyr Asp Leu Ala Ser Gly Trp Tyr Asp Leu Thr Lys Leu Pro Phe  
 180 185 190  
 Val Phe Ala Leu Leu Leu His Ser Thr Ser Trp Lys Glu His Pro Leu  
 195 200 205  
 Pro Asn Leu Ala Met Glu Glu Ala Leu Gln Gln Phe Glu Ser Ser Pro  
 210 215 220  
 Glu Glu Val Leu Lys Glu Ala His Gln His Thr Gly Leu Pro Pro Ser  
 225 230 235 240  
 Leu Leu Gln Glu Tyr Ala Leu Cys Gln Tyr Arg Leu Gly Glu Glu  
 245 250 255  
 His Tyr Glu Ser Phe Glu Lys Phe Arg Glu Tyr Tyr Gly Thr Leu Tyr  
 260 265 270  
 Gln Gln Ala Arg Leu  
 275

<210> 517  
 <211> 244  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 517  
 Glu Lys Asn Thr Thr Lys Ala Leu Lys Asn Ser Gly Asn Ile Met Glu  
 1 5 10 15  
 Pro Ser Thr Asn Lys Pro Asp Cys Lys Lys Ile Phe Asp Ser Ile Ala  
 20 25 30  
 Ser Lys Tyr Asp Arg Thr Asn Thr Ile Leu Ser Leu Gly Met His His  
 35 40 45

Phe Trp Asn Arg Ser Leu Ile Gln Ile Leu Gly Ser Gly Tyr Ser Leu  
 50 55 60  
 Leu Asp Leu Cys Ala Gly Thr Gly Lys Val Ala Lys Arg Tyr Ile Ala  
 65 70 75 80  
 Ala His Pro Gln Ala Ser Val Thr Leu Val Asp Phe Ser Ser Ala Met  
 85 90 95  
 Leu Asp Ile Ala Lys Gln His Leu Pro Gln Gly Ser Cys Ser Phe Ile  
 100 105 110  
 His Ser Asp Ile Asn Gln Leu Pro Leu Glu Asn His Ser Tyr Pro Leu  
 115 120 125  
 Ala Ala Met Ala Tyr Gly Leu Arg Asn Leu Ser Asp Pro His Lys Ala  
 130 135 140  
 Leu Gln Glu Ile Ser Arg Val Leu Met Pro Ser Gly Lys Leu Gly Ile  
 145 150 155 160  
 Leu Glu Leu Thr Pro Pro Lys Lys Thr His Pro Thr Tyr Ser Ala His  
 165 170 175  
 Lys Leu Tyr Leu Arg Ala Val Val Pro Trp Ile Gly Lys Ser Val Ser  
 180 185 190  
 Lys Asp Pro Asp Ala Tyr Ser Tyr Leu Ser Lys Ser Ile Gln Gln Leu  
 195 200 205  
 Pro Lys Asp His Asp Leu Glu Asp Leu Phe Ser Lys Ser Gly Phe Tyr  
 210 215 220  
 Ile Ala Lys Lys Lys Lys Leu Phe Leu Gly Ala Ala Thr Ile Trp Leu  
 225 230 235 240  
 Leu Glu Lys Gln

<210> 518

<211> 550

<212> PRT

<213> Chlamydia pneumoniae

<400> 518

Arg Ile Ser Ile Ser Phe Arg Val Ser Trp Phe Val Lys Ile Ile Leu  
 1 5 10 15  
 Ala Val Leu Gly Arg Ala Ile Ala Lys Ala Tyr Tyr Val Cys Met Val  
 20 25 30  
 Ala Arg Gly Leu Cys Asp Phe Pro Thr Leu Val Pro Asn Glu Arg Leu  
 35 40 45  
 Pro Ile Gly Pro Phe Phe Val Pro Gln His Thr Ser Gly Ala Lys Gly  
 50 55 60  
 Lys Glu Phe Ala Lys Arg Asn Phe Ser Ile Ile Ser Gly Leu Asp Asp  
 65 70 75 80  
 Ile Leu Lys Leu Cys Ile Leu Gln Arg Arg Pro Phe Ala Leu Gln Trp  
 85 90 95  
 Asp Asn Leu Ser Val Lys Ser Asp Tyr Glu Glu Ala Gly Pro Ala Ile  
 100 105 110  
 Gly Ile Arg Ser Leu Glu Pro Gln Val Ser Gln Ile Ser Pro Ala His  
 115 120 125  
 Gly Arg Leu Cys Ser Thr Leu Val Gln Trp Ala Pro Ile Leu Gly Ser  
 130 135 140  
 Glu Glu Gln Leu Val Trp Leu Glu Glu Thr Met Lys Arg Leu Lys Phe  
 145 150 155 160  
 Pro Lys Ser Leu Gly Ser Lys Asp Ala Val Ile Val Asp Ser Glu Met  
 165 170 175  
 Val Pro Val Asn Ala Asn Pro Thr Gln Glu Ile Pro Ala Ala Ser Glu  
 180 185 190  
 Thr Val Glu Ser Ser Pro Val Ala Pro Gly Asn Thr Thr Asp Thr Met  
 195 200 205  
 Pro Ala Ala Ser Gly Thr Thr Asp Thr Thr Ser Gly Val Ser Glu Ala  
 210 215 220

Ala	Ala	Ala	Glu	Ala	Ala	Val	Asp	Ser	Thr	Pro	Gly	Thr	Glu	Glu	Glu
225					230					235					240
Pro	Ser	Phe	Ser	Leu	Arg	Tyr	Ala	Leu	Val	Val	Gln	Asn	Val	Pro	Tyr
				245					250					255	
Pro	Glu	Pro	Pro	Lys	Glu	Pro	Glu	Val	Met	Phe	Thr	Asp	Glu	Glu	Lys
			260					265					270		
Ser	Leu	Ile	Leu	Glu	Ala	Thr	Arg	Ala	Arg	Arg	Met	Glu	Leu	Asp	Leu
		275					280					285			
Tyr	Asn	Gly	Tyr	Leu	Ala	Asp	Tyr	Glu	Leu	Ser	Lys	Asp	Glu	Ile	Gln
	290					295					300				
Lys	His	Val	Pro	Asp	Leu	Pro	Glu	Asn	Trp	Arg	Thr	Asn	Trp	Arg	Trp
305					310					315					320
Ser	Glu	Arg	Leu	Tyr	Lys	Phe	Phe	Phe	Lys	Thr	Lys	Lys	Glu	Gly	Leu
				325					330					335	
Glu	Glu	Ile	Phe	Leu	Asn	Lys	Glu	Leu	Gly	Asn	Met	Ile	Leu	Ala	Arg
			340					345					350		
Gly	Leu	Ala	Ala	Thr	Gln	Ser	Gln	Ala	Arg	Ile	Lys	Val	Phe	Asn	Ser
		355					360					365			
Leu	Val	Ala	Trp	Leu	Leu	Gln	Ser	Phe	Asn	Val	Gly	Arg	Ser	Cys	Thr
	370					375					380				
Ala	Lys	Pro	Leu	Pro	Thr	Ser	Lys	Leu	Asp	Leu	Phe	Lys	Ser	Glu	Phe
385					390					395					400
Glu	Ser	Lys	Pro	Lys	Asn	Asn	Ile	Leu	Thr	Glu	Phe	Leu	Val	Ala	Ser
				405					410					415	
Asp	Glu	Glu	Ile	Leu	Phe	Lys	Gly	Leu	Arg	Val	Leu	Glu	Pro	Gly	Ile
			420					425					430		
Glu	Gly	Trp	Tyr	Asp	His	Pro	Asp	Gln	Ala	Gly	Glu	Ile	Arg	Ser	Val
	435					440						445			
Leu	Glu	Gly	Leu	Val	Gln	Ala	Gly	Arg	Ile	Ser	Gly	Tyr	Trp	Glu	Asn
	450					455					460				
Gln	Pro	Phe	Gly	Arg	Phe	Val	Leu	Arg	Gly	Val	Gly	Glu	Arg	Arg	Thr
465					470					475					480
Glu	Leu	Val	Glu	Leu	Glu	Ser	Leu	Val	Ala	Ser	Gly	Glu	Ile	Met	
				485				490					495		
Gln	Phe	Phe	Glu	Ser	Ser	Asp	Glu	Glu	Gly	Ala	Phe	Ile	Ile	Asp	Asn
			500					505					510		
Glu	Pro	Ser	Lys	Thr	Ala	Met	Leu	Lys	Gln	Arg	Phe	Lys	Ser	Cys	Val
		515					520					525			
Arg	Thr	Lys	Leu	Val	Gly	Ser	Phe	Ala	Asp	Glu	Ser	Leu	Pro	Arg	Gly
	530					535					540				
Arg	Phe	Thr	Ile	Leu	Val										
545					550										

<210> 519  
 <211> 281  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 519  
 Phe Ile Met Ser Ser Leu Leu Ser Cys Gly Arg Ile Glu Pro Thr Arg  
 1 5 10 15  
 Val Thr Cys Ser Leu Lys Thr Tyr Leu Glu Asp Thr Ser Gln Asn Gln  
 20 25 30  
 Leu Ser Thr Arg Leu Val Arg Ala Ser Val Ile Phe Leu Cys Ala Leu  
 35 40 45  
 Leu Ile Ile Leu Val Cys Val Ala Leu Ser Ser Leu Ile Pro Ser Ile  
 50 55 60  
 Met Ala Leu Ala Thr Ser Phe Thr Val Met Gly Leu Ile Leu Phe Val  
 65 70 75 80  
 Met Ser Leu Leu Gly Asp Val Ala Ile Ile Ser Tyr Leu Thr Tyr Ser  
 85 90 95

Thr	Val	Thr	Ser	Tyr	Arg	Gln	Asn	Lys	Arg	Ala	Phe	Glu	Ile	His	Lys
			100					105					110		
Pro	Ala	Arg	Ser	Val	Tyr	Tyr	Glu	Gly	Val	Arg	His	Trp	Asp	Leu	Gly
		115					120					125			
Arg	Ser	Ser	Leu	Gly	Thr	Gly	Glu	Ile	Pro	Ile	Val	Arg	Thr	Leu	Phe
	130					135					140				
Ser	Pro	Phe	Gln	Asn	His	Gly	Leu	Asn	His	Ala	Leu	Ala	Ala	Lys	Ile
145					150					155					160
Phe	Leu	Phe	Met	Glu	His	Phe	Ser	Pro	Glu	Pro	Pro	Asn	Glu	Pro	Leu
			165						170					175	
Val	Asp	Trp	Ala	Cys	Leu	Ile	Arg	Asp	Phe	Arg	Pro	His	Val	Ser	Ser
			180					185					190		
Leu	Cys	Phe	Val	Ile	Glu	Lys	Gln	Gly	Ser	Ser	Leu	Arg	Thr	Lys	Glu
		195					200					205			
Gly	Asn	Thr	Ile	Cys	Glu	Ala	Phe	Arg	Ser	Asp	Tyr	Asp	Ala	His	Phe
	210					215					220				
Ala	Met	Val	Asp	Cys	Tyr	Arg	Leu	Ile	His	Ser	Lys	Leu	Ile	Ile	Glu
225					230					235					240
Lys	Met	Gly	Leu	Lys	Asn	Ile	Asp	Ile	Ile	Pro	Ser	Val	Met	Val	Arg
			245					250						255	
Glu	Asp	Tyr	Pro	Ser	Arg	Pro	Gly	Glu	Gly	Tyr	Arg	Glu	Gly	Leu	Leu
			260					265						270	
Arg	Met	Tyr	Gly	Gly	Lys	Gly	Ala	Leu							
		275					280								

<210> 520

<211> 325

<212> PRT

<213> Chlamydia pneumoniae

<400> 520

Phe	Met	Met	Thr	Tyr	Pro	Val	Pro	Gln	Asn	Pro	Leu	Leu	Leu	Arg	Ile
1				5					10					15	
Leu	Arg	Leu	Met	Asp	Ala	Phe	Ser	Lys	Ser	Asp	Asp	Glu	Arg	Asp	Phe
		20						25				30			
Tyr	Leu	Asp	Arg	Val	Glu	Gly	Phe	Ile	Leu	Tyr	Ile	Asp	Leu	Asp	Lys
		35					40					45			
Asp	Gln	Glu	Asp	Leu	Asn	Lys	Ile	Tyr	Gln	Glu	Leu	Glu	Glu	Asn	Ala
	50					55					60				
Glu	Arg	Tyr	Cys	Leu	Ile	Pro	Lys	Leu	Thr	Phe	Tyr	Glu	Val	Lys	Lys
65					70					75				80	
Ile	Met	Glu	Thr	Phe	Ile	Asn	Glu	Lys	Ile	Tyr	Asp	Ile	Asp	Thr	Lys
			85						90					95	
Glu	Lys	Phe	Leu	Glu	Ile	Leu	Gln	Ser	Lys	Asn	Ala	Arg	Glu	Gln	Phe
			100					105					110		
Leu	Glu	Phe	Ile	Tyr	Asp	His	Glu	Ala	Glu	Leu	Glu	Lys	Trp	Gln	Gln
		115					120					125			
Phe	Tyr	Val	Glu	Arg	Ser	Arg	Ile	Arg	Ile	Ile	Glu	Trp	Leu	Arg	Asn
	130					135					140				
Asn	Lys	Phe	His	Phe	Val	Phe	Glu	Glu	Asp	Leu	Asp	Phe	Thr	Lys	Asn
145					150					155					160
Val	Leu	Glu	Gln	Leu	Lys	Ile	His	Leu	Phe	Asp	Ala	Lys	Val	Gly	Lys
			165						170					175	
Glu	Ile	Thr	Gln	Ala	Arg	Gln	Leu	Leu	Ser	Asn	Lys	Ala	Lys	Ile	Tyr
		180						185					190		
Tyr	Ser	Asn	Glu	Ala	Leu	Asn	Pro	Arg	Pro	Lys	Arg	Gly	Arg	Pro	Pro
		195					200					205			
Lys	Gln	Ser	Ala	Lys	Val	Glu	Thr	Glu	Thr	Thr	Ile	Ser	Ser	Asp	Ile
	210						215				220				
Tyr	Thr	Lys	Val	Pro	Gln	Ala	Ala	Arg	Arg	Phe	Leu	Phe	Leu	Pro	Glu
225					230					235					240

Ile	Thr	Ser	Pro	Ser	Ser	Ile	Thr	Phe	Ser	Glu	Lys	Phe	Asp	Thr	Glu
				245					250					255	
Glu	Glu	Phe	Leu	Ala	Asn	Leu	Arg	Gly	Ser	Thr	Arg	Val	Glu	Asp	Gln
			260					265					270		
Leu	Asn	Leu	Thr	Asn	Leu	Ser	Glu	Arg	Phe	Ala	Ser	Leu	Lys	Glu	Leu
		275					280					285			
Ser	Ala	Lys	Leu	Gly	Tyr	Asp	Ser	Leu	Ser	Thr	Gly	Asp	Phe	Phe	Gly
	290					295					300				
Asp	Asp	Asp	Glu	Lys	Val	Val	Thr	Lys	Thr	Lys	Gly	Ser	Lys	Arg	Gly
305					310					315					320
Arg	Lys	Lys	Ser	Ser											
				325											

<210> 521  
 <211> 268  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 521

Gln	Pro	Thr	Lys	Leu	Arg	Ile	Leu	Val	Tyr	Trp	Met	Ala	Phe	Tyr	Ser
1				5					10					15	
Pro	Ser	Thr	Ile	Ser	Lys	Tyr	Phe	Ile	Tyr	Ser	Gly	Ala	Gly	Asn	Arg
			20					25					30		
Phe	Leu	Leu	Gly	Glu	Thr	Leu	Pro	Glu	Val	Glu	Asp	Val	Arg	Phe	Leu
		35					40					45			
Cys	Gln	Glu	Thr	Arg	Val	Asp	Gly	Phe	Leu	Tyr	Leu	Lys	Pro	Ser	Ser
50						55					60				
Cys	Ala	Asp	Ala	Gln	Leu	Ile	Ile	Phe	Asn	Ser	Asp	Gly	Ser	Arg	Pro
65					70					75					80
Thr	Met	Cys	Gly	Asn	Gly	Leu	Arg	Cys	Ala	Ile	Ala	His	Leu	Ala	Ser
				85					90					95	
Gln	Lys	Gly	Lys	Ser	Asp	Ile	Ser	Val	Ser	Thr	Asp	Ser	Gly	Leu	Tyr
			100					105					110		
Ser	Gly	Tyr	Phe	Tyr	Ser	Trp	Asp	Arg	Val	Leu	Val	Asp	Met	Thr	Leu
		115					120					125			
Ala	Asp	Trp	Arg	Ala	Ser	Val	His	Arg	Leu	Glu	Ser	Arg	Pro	Asp	Pro
	130					135					140				
Leu	Pro	Lys	Glu	Val	Val	Cys	Ile	His	Thr	Gly	Val	Pro	His	Ala	Val
145					150					155					160
Val	Ile	Leu	Pro	Glu	Ile	Ser	Thr	Leu	Asp	Leu	Ser	Ile	Leu	Gly	Pro
			165						170					175	
Phe	Leu	Arg	Tyr	His	Gln	Thr	Phe	Ser	Pro	Asp	Gly	Val	Asn	Val	Asn
		180						185					190		
Phe	Val	Gln	Ile	Leu	Gly	His	Cys	Gln	Leu	Arg	Val	Arg	Thr	Tyr	Glu
		195					200					205			
Arg	Gly	Val	Glu	Gly	Glu	Thr	Ala	Ala	Cys	Gly	Thr	Gly	Ala	Leu	Ala
	210					215					220				
Ser	Ala	Leu	Val	Val	Ser	Asn	Ser	Tyr	Gly	Trp	Lys	Glu	Ser	Ile	Gln
225					230					235					240
Ile	His	Thr	Trp	Gly	Gly	Glu	Leu	Met	Thr	Val	Ser	Gln	Asn	Arg	Gly
			245						250					255	
Arg	Val	Tyr	Leu	Gln	Gly	Ser	Val	Thr	Arg	Asp	Leu				
			260					265							

<210> 522  
 <211> 196  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 522

Glu Arg His Tyr Phe Met Ala Asp Gly Glu Val His Lys Leu Arg Asp  
 1 5 10 15  
 Ile Ile Glu Lys Glu Leu Leu Glu Ala Arg Arg Val Phe Phe Ser Glu  
 20 25 30  
 Pro Val Thr Glu Lys Ser Ala Ser Asp Ala Ile Lys Lys Leu Trp Tyr  
 35 40 45  
 Leu Glu Leu Lys Asp Pro Gly Lys Pro Ile Val Phe Val Ile Asn Ser  
 50 55 60  
 Pro Gly Gly Ser Val Asp Ala Gly Phe Ala Val Trp Asp Gln Ile Lys  
 65 70 75 80  
 Met Leu Thr Ser Pro Val Thr Thr Val Val Thr Gly Leu Ala Ala Ser  
 85 90 95  
 Met Gly Ser Val Leu Ser Leu Cys Ala Ala Pro Gly Arg Arg Phe Ala  
 100 105 110  
 Thr Pro His Ser Arg Ile Met Ile His Gln Pro Ser Ile Gly Gly Pro  
 115 120 125  
 Ile Thr Gly Gln-Ala-Thr-Asp-Leu-Asp-Ile-His-Ala-Arg-Glu-Ile-Leu  
 130 135 140  
 Lys Thr Lys Ala Arg Ile Ile Asp Val Tyr Val Glu Ala Thr Asn Gln  
 145 150 155 160  
 Pro Arg Asp Ile Ile Glu Lys Ala Ile Asp Arg Asp Met Trp Met Thr  
 165 170 175  
 Ala Asn Glu Ala Lys Asp Phe Gly Leu Leu Asp Gly Ile Leu Phe Ser  
 180 185 190  
 Phe Asn Asp Leu  
 195

<210> 523

<211> 521

<212> PRT

<213> Chlamydia pneumoniae

<400> 523

Lys Ser Leu Leu Lys Val Phe Glu Lys Phe Lys Lys Phe Ala Ile Val  
 1 5 10 15  
 Glu Ile Phe Thr Lys Val Val Ala Val Val Ser Leu Leu His Lys Phe  
 20 25 30  
 Leu Glu Asn Ala Ser Gly Lys Lys Gly Gln Ser Leu Ala Ser Thr Ala  
 35 40 45  
 Tyr Leu Ala Ala Leu Asp His Leu Leu Asn Ala Phe Pro Ser Ile Gly  
 50 55 60  
 Glu Arg Ile Ile Asp Glu Leu Lys Ser Gln Arg Ser His Leu Lys Met  
 65 70 75 80  
 Ile Ala Ser Glu Asn Tyr Ser Ser Leu Ser Val Gln Leu Ala Met Gly  
 85 90 95  
 Asn Leu Leu Thr Asp Lys Tyr Cys Glu Gly Ser Pro Phe Lys Arg Phe  
 100 105 110  
 Tyr Ser Cys Cys Glu Asn Val Asp Ala Ile Glu Trp Glu Cys Val Glu  
 115 120 125  
 Thr Ala Lys Glu Leu Phe Ala Ala Asp Cys Ala Cys Val Gln Pro His  
 130 135 140  
 Ser Gly Ala Asp Ala Asn Leu Leu Ala Val Met Ala Ile Leu Thr His  
 145 150 155 160  
 Lys Val Gln Gly Pro Ala Val Ser Lys Leu Gly Tyr Lys Thr Val Asn  
 165 170 175  
 Glu Leu Thr Glu Glu Tyr Thr Leu Leu Lys Ala Glu Met Ser Ser  
 180 185 190  
 Cys Val Cys Leu Gly Pro Ser Leu Asn Ser Gly Gly His Leu Thr His  
 195 200 205

Gly Asn Val Arg Leu Asn Val Met Ser Lys Leu Met Arg Cys Phe Pro  
 210 215 220  
 Tyr Asp Val Asn Pro Asp Thr Glu Cys Phe Asp Tyr Ala Glu Ile Ser  
 225 230 235 240  
 Arg Leu Ala Lys Glu Tyr Lys Pro Lys Val Leu Ile Ala Gly Tyr Ser  
 245 250 255  
 Ser Tyr Ser Arg Arg Leu Asn Phe Ala Val Leu Lys Gln Ile Ala Glu  
 260 265 270  
 Asp Cys Gly Ser Val Leu Trp Val Asp Met Ala His Phe Ala Gly Leu  
 275 280 285  
 Val Ala Gly Gly Val Phe Val Asp Glu Glu Asn Pro Ile Pro Tyr Ala  
 290 295 300  
 Asp Ile Val Thr Thr Thr Thr His Lys Thr Leu Arg Gly Pro Arg Gly  
 305 310 315 320  
 Gly Leu Val Leu Ala Thr Arg Glu Tyr Glu Ser Thr Leu Asn Lys Ala  
 325 330 335  
 Cys Pro Leu Met Met Gly Gly Pro Leu Pro His Val Ile Ala Lys  
 340 345 350  
 Thr Val Ala Leu Lys Glu Ala Leu Ser Val Asp Phe Lys Lys Tyr Ala  
 355 360 365  
 His Gln Val Val Asn Asn Ala Arg Arg Leu Ala Glu Arg Phe Leu Ser  
 370 375 380  
 His Gly Leu Arg Leu Leu Thr Gly Gly Thr Asp Asn His Met Met Val  
 385 390 395 400  
 Ile Asp Leu Gly Ser Leu Gly Ile Ser Gly Lys Ile Ala Glu Asp Ile  
 405 410 415  
 Leu Ser Ser Val Gly Ile Ala Val Asn Arg Asn Ser Leu Pro Ser Asp  
 420 425 430  
 Ala Ile Gly Lys Trp Asp Thr Ser Gly Ile Arg Leu Gly Thr Pro Ala  
 435 440 445  
 Leu Thr Thr Leu Gly Met Gly Ile Asp Glu Met Glu Glu Val Ala Asp  
 450 455 460  
 Ile Ile Val Lys Val Leu Arg Asn Ile Arg Leu Ser Cys His Val Glu  
 465 470 475 480  
 Gly Ser Ser Lys Lys Asn Lys Gly Glu Leu Pro Glu Ala Ile Ala Gln  
 485 490 495  
 Glu Ala Arg Asp Arg Val Arg Asn Leu Leu Leu Arg Phe Pro Leu Tyr  
 500 505 510  
 Pro Glu Ile Asp Leu Glu Ala Leu Val  
 515 520

<210> 524

<211> 277

<212> PRT

<213> Chlamydia pneumoniae

<400> 524

Arg Glu Pro Leu Ser Pro Glu Lys Thr Ser Leu Ala Phe Lys Val Lys  
 1 5 10 15  
 Asn Val Asn Gln Arg Met Ile Lys Lys Asn Gln Gly Lys Lys Lys Asn  
 20 25 30  
 Tyr Phe Gln Tyr Ile Pro Leu Lys Val Gln Lys Leu Arg Gln Pro Ser  
 35 40 45  
 Phe Tyr Pro Lys Arg Leu Met Thr Leu Tyr Leu Gly Leu Asn Gln Lys  
 50 55 60  
 Thr Ala Arg Lys Tyr Gln Ala His Tyr Leu Pro Ile Leu Thr Leu Phe  
 65 70 75 80  
 Pro Tyr Ala Lys Ser Thr Pro Gln Asn Lys Arg Ala Leu Gln Phe Leu  
 85 90 95  
 Pro Gln Ala Thr His Val Ile Leu Thr Ser Pro Ser Ser Thr His Leu  
 100 105 110

Phe Leu Ser Arg Met Thr Ser Leu Leu Ser Lys Ala Thr Leu Lys Thr  
115 120 125  
Lys Thr Tyr Leu Cys Ile Gly Glu Ser Thr Lys Glu Arg Leu Leu Ser  
130 135 140  
Phe Leu Gly Gln Val Lys Tyr Val Val Ala Thr Gln Glu Ile Ala Glu  
145 150 155 160  
Gly Ile Phe Pro Leu Leu Gln Ala Leu Pro Ser Ser Ala Arg Ile Leu  
165 170 175  
Tyr Pro His Ser Ser Leu Ala Arg Pro Val Ile Arg Glu Phe Leu Tyr  
180 185 190  
Asn Arg Phe Thr Phe Phe Ser Tyr Pro His Tyr Thr Val Lys Pro Arg  
195 200 205  
Lys Leu Lys Lys Asn Ile Leu Ser Lys Tyr Lys Lys Ile Ile Phe Thr  
210 215 220  
Ser Pro Ser Thr Val Arg Ala Phe Ala Lys Ile Phe Pro Arg Phe Pro  
225 230 235 240  
Glu Lys Thr Tyr Trp Cys Gln Gly Arg Met Thr Leu Gln Glu Phe Gln  
245 250 255  
Lys Phe Ser Ser Gln Lys Gln Val Ser Leu Leu Glu Thr Leu Gly Lys  
260 265 270  
Ser Arg Thr Ser Pro  
275

<210> 525  
<211> 111  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 525  
Phe Met Ala Ser Ser Ala Thr Pro Gly Phe Asp Gly Thr Ala Pro Ser  
1 5 10 15  
Leu Phe Pro Pro Ala Thr Arg Pro Arg Tyr Asn Phe Lys Leu Ala Leu  
20 25 30  
Phe Val Thr Ile Ala Ile Ala Leu Val Trp Ile Ala Leu Ile Ala Thr  
35 40 45  
Thr Ile Ala Ile Gly Leu Cys Ile His Pro Leu Cys Ser Phe Ile Phe  
50 55 60  
Leu Thr Ala Ile Pro Leu Tyr Phe Ile Ser Arg Tyr Ile Cys Ser His  
65 70 75 80  
Tyr Ala Arg Asn Val Tyr Ile Ala Leu Asp Val Val Pro Asp His Ser  
85 90 95  
Lys Leu Gln Asp Met Arg Ser His Ser Pro Ile Phe Ser Asp Arg  
100 105 110

<210> 526  
<211> 367  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 526  
Lys Val Phe Tyr Lys Lys Asn Val Met Ser Gly Pro Ser Arg Thr Glu  
1 5 10 15  
Ser Ser Gln Val Ser Val Leu Ser Tyr Val Pro Arg Asp Lys Glu Ile  
20 25 30  
Ala Pro Lys Lys Gln Phe Thr Ile Ala Lys Ile Ser Thr Leu Ala Ile  
35 40 45  
Leu Ala Ser Leu Ala Leu Gly Ala Leu Val Ala Gly Ile Ser Leu Thr  
50 55 60  
Ile Val Leu Gly Asn Pro Val Phe Leu Ala Leu Leu Ile Thr Thr Ala  
65 70 75 80

Leu Phe Ser Val Val Thr Phe Leu Val Tyr His Gln Met Thr Ser Lys  
 85 90 95  
 Val Ser Ser Asn Trp Gln Lys Val Leu Glu Gln Asn Phe Lys Pro Leu  
 100 105 110  
 Gly Lys Ala Trp Gln Glu Lys Asn Val Asp Cys Tyr Ser Asn Glu Met  
 115 120 125  
 Gln Phe Tyr Asn Asn His Leu Asn Pro Lys Phe Lys Val Ala Ile Gln  
 130 135 140  
 Thr Asp Ala Ser Gln Pro Phe Gln Pro Thr Phe Leu Thr Gly Leu Arg  
 145 150 155 160  
 Val Ile Glu Lys Asn Gln Ser Thr Gly Ile Ile Phe Asn Pro Val Gly  
 165 170 175  
 Pro Thr Asn Leu Ile Asp Asn Thr Ala Thr Asn Leu Ser Thr Ile Leu  
 180 185 190  
 Tyr Ser Thr Leu Lys Asp Lys Ser Val Trp Asp Thr Cys Lys Gln Arg  
 195 200 205  
 Glu Gly Gly Pro Ala Lys Gly Glu Asp Pro Phe Ser Pro Thr Glu Val  
 210 215 220  
 Arg Val Val Lys Leu Pro Asn Glu Ala Leu Asp Gln Thr Phe Asn Leu  
 225 230 235 240  
 Asn Leu Ser Ser Ala Glu Lys Lys Ser Ile Leu Pro Thr Phe Leu Gly  
 245 250 255  
 His Val Cys Gly Pro Lys Ser Glu Glu Leu Pro Asn Gln Gln Glu Tyr  
 260 265 270  
 Tyr Arg Gln Ala Leu Leu Ala Tyr Glu Asn Cys Leu Lys Ala Ala Ile  
 275 280 285  
 Glu Ser His Ala Ala Ile Val Ala Leu Pro Leu Phe Thr Ser Val Tyr  
 290 295 300  
 Glu Val Pro Pro Glu Glu Ile Leu Pro Lys Glu Gly Thr Phe Tyr Trp  
 305 310 315 320  
 Asp Asn Gln Thr Gln Ala Phe Cys Lys Arg Ala Leu Leu Asp Ala Ile  
 325 330 335  
 Gln Asn Thr Ala Leu Arg Tyr Pro Gln Arg Ser Leu Leu Val Ile Leu  
 340 345 350  
 Gln Asp Pro Phe Asn Thr Ile Glu Ser Gln Ser Arg Ser Glu Glu  
 355 360 365

<210> 527

<211> 258

<212> PRT

<213> Chlamydia pneumoniae

<400> 527

Gly Ile Ile Phe Met His Asp Ala Leu Leu Ser Ile Leu Ala Ile Gln  
 1 5 10 15  
 Glu Leu Asp Ile Lys Met Ile Arg Leu Met Arg Val Lys Lys Glu His  
 20 25 30  
 Gln Lys Glu Leu Ala Lys Val Gln Ser Leu Lys Ser Asp Ile Arg Arg  
 35 40 45  
 Lys Val Gln Glu Lys Glu Leu Glu Met Glu Asn Leu Lys Thr Gln Ile  
 50 55 60  
 Arg Asp Gly Glu Asn Arg Ile Gln Glu Ile Ser Glu Gln Ile Asn Lys  
 65 70 75 80  
 Leu Glu Asn Gln Gln Ala Ala Val Lys Lys Met Asp Glu Phe Asn Ala  
 85 90 95  
 Leu Thr Gln Glu Met Thr Thr Ala Asn Lys Glu Arg Arg Ser Leu Glu  
 100 105 110  
 His Gln Leu Ser Asp Leu Met Asp Lys Gln Ala Gly Gly Glu Asp Leu  
 115 120 125  
 Ile Val Ser Leu Lys Glu Ser Leu Ala Ser Thr Glu Asn Ser Ser Ser  
 130 135 140

Val Ile Glu Lys Glu Ile Phe Glu Ser Ile Lys Lys Ile Asn Glu Glu  
 145 150 155 160  
 Gly Lys Ala Leu Leu Glu Gln Arg Thr Glu Leu Lys His Ala Thr Asn  
 165 170 175  
 Pro Glu Leu Leu Ser Ile Tyr Glu Arg Leu Leu Asn Asn Lys Lys Asp  
 180 185 190  
 Arg Val Val Val Pro Ile Glu Asn Arg Val Cys Ser Gly Cys His Ile  
 195 200 205  
 Val Leu Thr Pro Gln His Glu Asn Leu Val Arg Lys Lys Asp Arg Leu  
 210 215 220  
 Ile Phe Cys Glu His Cys Ser Arg Ile Leu Tyr Trp Gln Glu Ser Gln  
 225 230 235 240  
 Val Asn Ala Gln Glu Asn Ser Thr Ala Lys Arg Arg Arg Arg Ala  
 245 250 255  
 Ala Val

<210> 528  
 <211> 354  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 528  
 Val Phe Asn Leu Ile Glu Lys Ser Phe Gly Val Cys Tyr Asp Gly Leu  
 1 5 10 15  
 Lys Cys Ser Gln Ser Lys Glu Asn Arg Met Pro Ser Pro Met Ile Ser  
 20 25 30  
 Thr Asp Val Cys Gln Asp Ile Leu Gly Lys Gln Lys Glu Ala Val Asp  
 35 40 45  
 Phe Phe Phe Gln Ala Phe Gln Pro Lys Glu Ala Met Gln Leu Ala Glu  
 50 55 60  
 Lys Ile Leu Gly His Ser Gly Trp Val Phe Phe Ser Gly Val Gly Lys  
 65 70 75 80  
 Ser Gly Cys Val Ala Arg Lys Leu Val Ala Thr Leu Gln Ser Leu Ser  
 85 90 95  
 Glu Arg Ala Leu Phe Phe Ser Pro Val Asp Leu Leu His Gly Asp Leu  
 100 105 110  
 Gly Leu Val Ser Pro Gly Asp Ile Val Cys Leu Phe Ser Lys Ser Gly  
 115 120 125  
 Glu Thr Gln Glu Leu Leu Asp Thr Val Pro His Leu Lys Ser Arg Arg  
 130 135 140  
 Ala Ile Leu Val Ala Ile Thr Ser Met Pro Tyr Ser Asn Leu Ala Ala  
 145 150 155 160  
 Leu Ser Asp Leu Val Val Ile Leu Pro Ser Val Ala Glu Leu Asp Pro  
 165 170 175  
 Phe Asn Leu Ile Pro Thr Asn Ser Thr Thr Cys Gln Met Ile Phe Gly  
 180 185 190  
 Asp Phe Leu Ala Met Leu Leu Phe His Ser Arg Gly Val Ser Leu Ser  
 195 200 205  
 Thr Tyr Gly Lys Asn His Pro Ser Gly Gln Val Gly Met Lys Ala Asn  
 210 215 220  
 Gly Lys Val Lys Asp Phe Met Phe Pro Lys Thr Glu Val Pro Phe Cys  
 225 230 235 240  
 His Leu Gly Asp Lys Val Ser Phe Ser Leu Glu Val Phe Ser Ala Tyr  
 245 250 255  
 Gly Cys Gly Cys Val Cys Ile Val Asp Pro Gln Phe Arg Leu Met Gly  
 260 265 270  
 Ile Phe Thr Asp Gly Asp Leu Arg Arg Ser Leu Ala Ser Tyr Gly Gly  
 275 280 285  
 Glu Val Leu Ser Leu Ser Leu Glu Lys Val Met Thr Ala Asn Pro Arg  
 290 295 300

Cys Ile Thr Glu Asp Ser Asp Ile Ala Ile Ala Leu Gln Leu Met Glu  
 305 310 315 320  
 Ser Ser Ser Pro Val Ala Val Leu Pro Val Leu Asp Asn Glu Glu Asn  
 325 330 335  
 Arg His Val Thr Gly Leu Leu His Met His Thr Leu Ala Lys Ala Gly  
 340 345 350  
 Leu Leu

<210> 529  
 <211> 395  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 529  
 Arg Tyr Met Ile Phe Glu Phe Arg Phe Pro Lys Ile Gly Glu Thr Ser  
 1 5 10 15  
 Ser Gly Gly Ser Ile Val Arg Trp Leu Lys Asn Leu Gly Asp His Val  
 20 25 30  
 Ala Arg Asp Glu Pro Leu Ile Glu Val Ser Thr Asp Lys Ile Ala Thr  
 35 40 45  
 Glu Leu Pro Ser Pro Lys Ala Gly Arg Leu Val Arg Phe Cys Val Asn  
 50 55 60  
 Glu Gly Asp Glu Val Ala Ser Gly Asp Val Leu Gly Leu Ile Glu Leu  
 65 70 75 80  
 Glu Glu Ile Ser Glu Ala Asp Asp Glu Ser Thr Ser Cys Pro Pro Thr  
 85 90 95  
 Ser Cys Glu Thr Lys Ser Glu Ala Gly Ser Ser Ser Ser Ser Val Trp  
 100 105 110  
 Phe Ser Pro Ala Val Leu Ser Leu Ala Gln Arg Glu Gly Ile Gly Leu  
 115 120 125  
 Asp Asn Leu Gln Lys Ile Ala Gly Thr Gly Lys Gly Gly Arg Val Thr  
 130 135 140  
 Arg Gln Asp Leu Glu Ala Tyr Ile Ser Glu Ser Gln Gln Val Ser Ile  
 145 150 155 160  
 Pro Glu Ile Phe Gln Gly Glu Val Asn Arg Ile Pro Met Ser Pro Leu  
 165 170 175  
 Arg Arg Ala Ile Ala Ser Ser Leu Ser Lys Ser Ser Asp Glu Val Pro  
 180 185 190  
 His Ala Ser Leu Val Val Asp Val Asp Val Thr Asp Leu Met Asn Leu  
 195 200 205  
 Ile Ser Gly Glu Arg Gln Arg Phe Leu Asp Thr His Gly Val Lys Leu  
 210 215 220  
 Thr Ile Thr Ser Phe Ile Val Gln Cys Leu Ala Gln Thr Leu Arg Gln  
 225 230 235 240  
 Phe Pro Leu Leu Asn Gly Ser Leu Asp Gly Thr Thr Ile Val Met Lys  
 245 250 255  
 Lys Ser Val Asn Val Gly Val Ala Val Asn Leu Asn Lys Glu Gly Val  
 260 265 270  
 Val Val Pro Val Ile His Asn Cys Gln Asp Arg Gly Leu Val Ser Ile  
 275 280 285  
 Ala Lys Ala Leu Ala Asp Leu Ser Ser Arg Ala Arg Leu Asn Lys Leu  
 290 295 300  
 Asp Pro Ser Glu Val Gln Asp Gly Ser Val Thr Val Thr Asn Phe Gly  
 305 310 315 320  
 Met Thr Gly Ala Leu Ile Gly Met Pro Ile Ile Arg Tyr Pro Glu Val  
 325 330 335  
 Ala Ile Leu Gly Ile Gly Thr Ile Gln Lys Arg Val Val Val Arg Asp  
 340 345 350  
 Asp Asp Ser Leu Ala Ile Arg Lys Met Val Tyr Val Thr Leu Thr Phe  
 355 360 365

Asp His Arg Val Leu Asp Gly Ile Tyr Gly Ser Glu Phe Leu Thr Ser  
 370 375 380  
 Leu Lys Asn Arg Leu Glu Ser Val Thr Met Gly  
 385 390 395

<210> 530  
 <211> 415  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 530  
 Leu Met Lys Leu Trp Met Lys Ile Phe Ile Gly Leu Phe Val Gly Val  
 1 5 10 15  
 Thr Leu Gly Leu Val Leu Glu Asp Lys Ala Ile Phe Phe Lys Pro Ile  
 20 25 30  
 Gly Asp Ile Phe Leu Asn Leu Leu Ser Met Val Val Tyr Pro Leu Val  
 35 40 45  
 Phe Cys Ser Met Val Leu Gly Ile Ala Ser Ile Ser Asp Met Lys Lys  
 50 55 60  
 Leu Gly Arg Ile Gly Ile Lys Ser Val Gly Leu Tyr Leu Gly Thr Thr  
 65 70 75 80  
 Ala Leu Ala Ile Val Ile Gly Leu Cys Phe Ala Trp Ile Phe Ser Pro  
 85 90 95  
 Gly Asn Gly Cys Asp Phe Ala Gln Ala Gln Ser Met Asp Ser Ala Val  
 100 105 110  
 Thr Val Ile Asp Ser Asn Lys Thr Ala Ala Tyr Phe Leu Ser Ile Ile  
 115 120 125  
 Ala Gln Val Phe Pro Ser Asn Pro Val Arg Ser Phe Ala Glu Gly Asn  
 130 135 140  
 Ile Leu Gln Ile Ile Ile Phe Ala Ile Phe Leu Gly Ile Ala Leu Arg  
 145 150 155 160  
 Leu Ser Gly Glu Arg Gly Arg Pro Val Glu Arg Phe Ile Asp Gly Phe  
 165 170 175  
 Ser Glu Ile Met Leu Arg Met Val Asn Met Ile Met Ser Phe Ala Pro  
 180 185 190  
 Tyr Gly Val Gly Ala Ser Met Ala Trp Ile Ser Gly Asn His Gly Leu  
 195 200 205  
 Gly Val Leu Trp Gln Leu Gly Lys Phe Ile Ile Ala Tyr Tyr Leu Ala  
 210 215 220  
 Cys Leu Phe His Ala Thr Leu Val Phe Gly Gly Leu Val Arg Phe Gly  
 225 230 235 240  
 Cys Lys Met Ser Phe Ser Lys Phe Leu Ser Ser Met Met Asp Ala Ile  
 245 250 255  
 Ser Cys Ala Val Ser Thr Ala Ser Ser Ser Ala Thr Leu Pro Val Thr  
 260 265 270  
 Met Arg Cys Val Ser Lys Asn Leu Gly Val Ser Ala Glu Val Ser Gly  
 275 280 285  
 Phe Val Leu Pro Leu Gly Ala Thr Val Asn Met Asn Gly Thr Ala Ile  
 290 295 300  
 Phe Gln Gly Met Ala Ala Val Phe Ile Ala Gln Ala Tyr Asn Cys Pro  
 305 310 315 320  
 Leu Ser Leu Ser Ser Leu Leu Leu Leu Val Val Thr Ala Thr Phe Ser  
 325 330 335  
 Ala Val Gly Ser Ala Gly Val Pro Gly Gly Gly Met Ile Thr Leu Gly  
 340 345 350  
 Ser Val Leu Ala Ser Val Gly Leu Pro Ile Gln Gly Ile Ala Ile Leu  
 355 360 365  
 Ala Gly Ile Asp Arg Leu Arg Asp Ile Val Gly Thr Pro Met Asn Ile  
 370 375 380  
 Leu Gly Asp Ala Val Val Ala Thr Tyr Val Ala Ser Gly Glu Gly Glu  
 385 390 395 400

Leu Ser Pro Tyr Glu Ser Ile Lys Gln Glu Ser Val Glu Thr Thr  
 405 410 415

<210> 531  
 <211> 378  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 531  
 Phe Ser Cys Lys Glu Ile Arg Ala Phe Lys Arg Gly Thr Met Lys Lys  
 1 5 10 15  
 Arg Phe Pro Ser Thr Leu Phe Leu Phe Tyr Arg Arg Val Thr Ile Ala  
 20 25 30  
 Ile Ser Leu Glu Gly Ile Leu Gly Trp Gly Trp Leu Gly Ser Leu Leu  
 35 40 45  
 Ser Lys Val Phe Ala Phe Leu Val Ala Cys Trp Asn Arg Phe Ser Trp  
 50 55 60  
 Ser Thr Pro Tyr Arg Ala Arg Ser Thr Val Ile Ser Val Gly Asn Ile  
 65 70 75 80  
 Val Val Gly Gly Ala Gly Lys Thr Pro Thr Val Leu Trp Leu Ala Glu  
 85 90 95  
 Ala Leu Arg Leu Arg Gly Tyr Ser Cys Gly Val Leu Ser Arg Gly Tyr  
 100 105 110  
 Lys Ser Gln Ser Ser Arg Gln Lys Lys Leu Thr Val Val Asp Ser Lys  
 115 120 125  
 Val His Ser Ala Ser Tyr Val Gly Asp Glu Pro Leu Leu Met Ala Glu  
 130 135 140  
 Lys Leu Pro Glu Gly Ser Val Trp Val His Lys Asp Arg Arg Ile Ser  
 145 150 155 160  
 Ala Ala Arg Ala Ala Glu Lys Phe Gly Ile Leu Leu Leu Asp Asp Gly  
 165 170 175  
 Leu Gln Tyr Arg Lys Leu His Lys Asp Val Glu Ile Ala Val Val Asn  
 180 185 190  
 Gly Gln Asp Pro Leu Gly Gly Arg Ala Phe Phe Pro Lys Gly Arg Leu  
 195 200 205  
 Arg Asp Phe Pro Leu Arg Leu Lys Thr Val Asp Ala Ile Ile Val Asn  
 210 215 220  
 Gly Gly Gly Lys Glu Ala Gly Thr Val Val Lys Arg Val Ser Asn Ala  
 225 230 235 240  
 Pro Gln Ile Phe Val Lys Pro Thr Ile Ala Ser Val Val Trp Thr His  
 245 250 255  
 Asn Gly Glu Arg Ile Pro Lys Glu Ala Leu Arg Glu Leu Arg Val Gly  
 260 265 270  
 Val Phe Cys Gly Leu Gly Phe Pro Gln Gly Phe Leu Asn Met Leu Arg  
 275 280 285  
 Glu Glu Gly Ile His Ile Leu Gly Lys Tyr Leu Leu Pro Asp His Ala  
 290 295 300  
 Ala Ile Thr Lys Lys Glu Leu Asn Tyr Phe Cys Gln Gln Met Ala Met  
 305 310 315 320  
 Arg Gln Gly Gln Gly Leu Leu Cys Thr Glu Lys Asp Ser Val Lys Leu  
 325 330 335  
 Pro Arg Leu Ser Gly Glu Val Ser Leu Leu Pro Ile Ala Lys Val Glu  
 340 345 350  
 Met Arg Leu Ser Val Asn Gln Asp Asp Thr Leu Ser Leu Leu Asn Met  
 355 360 365  
 Ile Glu Gln Ile His Lys Asn Arg Gly Asn  
 370 375



<210> 532  
 <211> 288  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 532  
 Ser Val Val Leu Trp Gly Lys Phe Leu Trp Arg Arg Cys Gly Ser Leu  
 1 5 10 15  
 Ala Phe Trp Glu Phe Cys Ser Met Asp Cys Ile Gly Lys His Asn Pro  
 20 25 30  
 Leu Val Lys Glu Ala Leu Ala Leu Lys Arg Ser Arg Cys Arg Lys Ser  
 35 40 45  
 Ser Trp Phe Leu Val Glu Gly Ala Arg Glu Ile Gln Lys Ala Leu Arg  
 50 55 60  
 Thr Gly Tyr Leu Cys Gln His Val Phe Cys Ser Thr His Leu Ser Glu  
 65 70 75 80  
 Lys Glu Lys Glu Phe Leu Tyr Glu Leu Lys Arg Asn Ser Thr Lys Ile  
 85 90 95  
 Leu Tyr Cys Leu Asp Ser Thr Leu Ala Gln Leu Ser Phe Lys Glu His  
 100 105 110  
 His Asp Ser Phe Val Ala Val Ile Gln Lys Arg Val Trp Asn Lys Glu  
 115 120 125  
 Asp Phe Leu Ile Gln Arg Lys Asn Ala Gln Pro Phe Tyr Leu Ile Ile  
 130 135 140  
 Glu Gln Val Glu Lys Pro Gly Asn Val Gly Ala Ile Leu Arg Ile Ala  
 145 150 155 160  
 Asp Gly Ala Gly Val Asp Gly Val Ile Leu Cys Asn Pro Ile Val Asp  
 165 170 175  
 Leu Tyr Asn Pro Asn Val Val Arg Ser Ser Leu Gly Ala Val Phe Ser  
 180 185 190  
 Leu Pro Ile Leu Ser Ile Ser Arg Glu Glu Gly Lys Glu Leu Phe Lys  
 195 200 205  
 Gln Glu Gly Trp Thr Val Phe Val Thr Ser Pro Arg Ala Glu Thr Met  
 210 215 220  
 Tyr Phe Ser Lys Asn Tyr Leu Gly Pro Thr Ala Leu Val Phe Gly Ser  
 225 230 235 240  
 Glu Lys Asp Gly Leu Thr Glu Asp Trp Phe Ser Glu Asp Phe Ser Glu  
 245 250 255  
 Ile Ala Leu Pro Met Leu Gly Glu Ser Asp Ser Leu Asn Leu Ala Thr  
 260 265 270  
 Ser Val Ala Val Ala Tyr Glu Val Val Arg Gln Arg Trp Val Asn  
 275 280 285

<210> 533  
 <211> 318  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 533  
 Asp Ser Ser Lys Asp Asp Phe Arg Lys Glu Lys Gly Arg Arg Lys Ser  
 1 5 10 15  
 Gln Tyr Arg Asp Arg Tyr Val Asn Lys Asp Thr Gly Arg His Ser Lys  
 20 25 30  
 Thr Tyr Phe Ser Leu Ile Arg Glu Arg Leu Val Met Asp Tyr Lys Leu  
 35 40 45  
 Leu Asp Ser Gly Asp Gly Asn Lys Leu Glu Cys Phe Gly Pro Val Thr  
 50 55 60  
 Leu Ile Arg Pro Ser Ser Ile Ala Val Trp Pro Lys Ser Arg Pro Glu  
 65 70 75 80  
 Leu Trp Ser Gln Ala Gln Leu Gln Tyr Val Arg Glu Gly Glu Arg Gly  
 85 90 95

Ala	Trp	Lys	Asn	Phe	Lys	Arg	Leu	Pro	Glu	Glu	Trp	Glu	Val	Ala	Phe		
			100					105					110				
Ser	Asp	Val	Arg	Cys	Leu	Leu	Lys	Arg	Thr	Pro	Phe	Gly	His	Leu	Gly		
		115					120					125					
Val	Phe	Pro	Glu	His	Met	Gly	Phe	Trp	Pro	Ala	Leu	Lys	Gln	Ala	Ile		
		130				135					140						
Glu	Lys	His	Lys	Glu	Arg	Gln	Val	Leu	Asn	Leu	Phe	Ala	Tyr	Thr	Gly		
145					150					155					160		
Ala	Gly	Ser	Ile	Phe	Ala	Ala	Lys	Cys	Gly	Ala	Arg	Val	Thr	His	Val		
				165					170					175			
Asp	Ala	Ser	Gln	Ala	Ala	Val	Arg	Trp	Ala	Gln	Arg	Asn	Val	Glu	Lys		
			180					185					190				
Asn	Ala	Phe	Pro	Glu	Arg	Arg	Ile	Phe	Trp	Val	Ile	Glu	Asp	Val	Ile		
		195					200					205					
Ser	Phe	Leu	Lys	Lys	Glu	Ile	Arg	Arg	Asn	Lys	Lys	Tyr	Gln	Val	Ile		
	210					215					220						
Leu	Leu	Asp	Pro	Pro	Ser	Tyr	Gly	Arg	Gly	Pro	Asp	Gly	Glu	Val	Phe		
225						230				235					240		
Lys	Ile	Asp	Lys	Asp	Leu	Phe	Pro	Leu	Leu	Ser	Leu	Cys	Ser	Lys	Leu		
				245				250						255			
Leu	Ala	Asp	Asp	Ala	Ser	Tyr	Phe	Leu	Leu	Thr	Ser	His	Thr	Pro	Gly		
			260					265					270				
His	Thr	Pro	Glu	Phe	Leu	Arg	Ala	Ile	Ala	Arg	Arg	Ser	Val	Pro	Thr		
	275						280						285				
Leu	Val	Ser	Glu	Ala	Trp	Ser	Cys	Gly	Glu	Ser	Phe	Cys	Gly	Glu	Gly		
	290					295					300						
Val	Gly	Ala	Leu	Pro	Ser	Gly	Ser	Phe	Val	Gln	Trp	Ile	Ala				
305					310					315							

<210> 534

<211> 214

<212> PRT

<213> Chlamydia pneumoniae

<400> 534

Glu	Ser	Phe	Cys	Cys	Lys	Asp	Ser	Val	Val	Lys	Trp	Gly	Gly	Met	Phe		
1				5					10					15			
Ser	Gly	Ile	Ile	Gln	Glu	Leu	Gly	Glu	Val	Cys	Phe	Phe	Glu	Ala	Gln		
		20						25					30				
Gly	Asn	Gly	Leu	Ser	Leu	Gly	Ile	Lys	Ser	Thr	Pro	Leu	Phe	Val	Thr		
	35					40						45					
Pro	Leu	Val	Thr	Gly	Asp	Ser	Val	Ala	Val	Asp	Gly	Val	Cys	Leu	Thr		
	50				55					60							
Leu	Thr	Ser	Cys	Asn	Glu	Ser	Lys	Ile	Phe	Phe	Asp	Val	Ile	Pro	Glu		
65				70					75					80			
Thr	Leu	Ala	Cys	Thr	Thr	Leu	Gly	Glu	Lys	Arg	Cys	Ser	Asp	Gln	Val		
				85				90					95				
Asn	Leu	Glu	Ala	Ala	Leu	Lys	Met	Gly	Asp	Ser	Ile	Gly	Gly	His	Leu		
		100						105					110				
Leu	Ser	Gly	His	Val	Phe	Gly	Thr	Ala	Glu	Ile	Phe	Leu	Ile	Lys	Glu		
	115					120						125					
Asn	Arg	Tyr	Tyr	Phe	Arg	Gly	Ser	Lys	Glu	Leu	Ser	Gln	Tyr	Leu	Phe		
	130					135					140						
Glu	Lys	Gly	Phe	Ile	Ala	Ile	Asp	Gly	Ile	Ser	Leu	Thr	Leu	Val	Ser		
145				150					155					160			
Val	Asp	Ser	Asp	Thr	Phe	Ser	Val	Gly	Leu	Ile	Pro	Glu	Thr	Leu	Gln		
			165					170					175				
Arg	Thr	Thr	Leu	Gly	Lys	Lys	Arg	Glu	Gly	Glu	Arg	Val	Asn	Ile	Glu		
			180					185					190				
Ile	Asp	Met	Ser	Thr	Lys	Ile	Gln	Val	Asp	Thr	Val	Lys	Arg	Ile	Leu		
	195						200					205					

Ala Ser Ser Gly Lys Asp  
210

<210> 535  
<211> 156  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 535  
Glu Val Ala Pro Met Gln Cys Pro Phe Cys Asn His Gly Glu Leu Lys  
1 5 10 15  
Val Ile Asp Ser Arg Asn Ala Pro Glu Ala Asn Ala Ile Lys Arg Arg  
20 25 30  
Arg Glu Cys Leu Lys Cys Ser Gln Arg Phe Thr Thr Phe Glu Thr Val  
35 40 45  
Glu Leu Thr Leu Gln Val Leu Lys Arg Asp Gly Arg Tyr Glu Asn Phe  
50 55 60  
Gln Glu Ser Lys Leu Ile His Gly Leu Asn Ala Ala Ser Ser His Thr  
65 70 75 80  
Arg Ile Gly Gln Asp Gln Val His Ala Ile Ala Ser Asn Val Lys Ser  
85 90 95  
Glu Leu Leu Gly Lys Gln Asn Arg Glu Ile Ser Thr Lys Glu Ile Gly  
100 105 110  
Glu Leu Val Met Lys Tyr Leu Lys Lys Ala Asp Met Ile Ala Tyr Ile  
115 120 125  
Arg Phe Ala Cys Val Tyr Arg Arg Phe Lys Asp Val Gly Glu Leu Met  
130 135 140  
Glu Val Leu Leu Ser Ala Thr Pro Asp Met Glu Lys  
145 150 155

<210> 536  
<211> 132  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 536  
Leu Asn Phe Ile Arg Ser Lys Val Val Pro Leu Ser Asp Asp Glu Ile  
1 5 10 15  
Glu Gln Phe Lys Lys Arg Leu Leu Glu Met Lys Ala Lys Leu Ser His  
20 25 30  
Thr Leu Glu Gly Asn Ala Gln Glu Val Lys Lys Pro Asn Glu Ala Thr  
35 40 45  
Gly Tyr Ser Gln His Gln Ala Asp Gln Gly Thr Asp Thr Phe Asp Arg  
50 55 60  
Thr Ile Ser Leu Glu Val Thr Thr Lys Glu Tyr Glu Leu Leu Arg Gln  
65 70 75 80  
Ile Asn Arg Ala Leu Glu Lys Ile Asn Glu Ser Ser Tyr Gly Ile Cys  
85 90 95  
Asp Val Ser Gly Glu Glu Ile Pro Leu Ala Arg Leu Ile Ala Ile Pro  
100 105 110  
Tyr Ala Thr Met Thr Val Lys Ala Gln Glu Gln Phe Glu Lys Gly Leu  
115 120 125  
Leu Ser Gly Asn  
130

<210> 537  
<211> 178  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 537

Lys	Arg	Thr	Pro	Ile	Trp	Lys	Leu	Ser	Ser	Met	Ala	Thr	Arg	Phe	Arg
1				5					10					15	
Ser	Thr	Leu	Leu	Val	Ile	Thr	Leu	Phe	Val	Leu	Ile	Asp	Trp	Val	Thr
		20						25					30		
Lys	Leu	Val	Val	Leu	Leu	Gln	Tyr	Lys	Asp	Leu	Gln	Ile	Leu	Thr	His
		35				40						45			
Pro	Thr	Leu	Tyr	Thr	His	Ser	Trp	Gly	Arg	Phe	Ser	Phe	Ser	Ile	Ala
		50				55					60				
Pro	Val	Phe	Asn	Glu	Gly	Ala	Ala	Phe	Gly	Leu	Phe	Ser	Asn	Tyr	Lys
65					70					75				80	
Tyr	Phe	Leu	Phe	Leu	Leu	Arg	Ile	Phe	Val	Ile	Leu	Gly	Leu	Leu	Ala
				85					90					95	
Tyr	Leu	Phe	Phe	Lys	Lys	Lys	Ser	Ile	Gln	Ser	Thr	Thr	Gln	Thr	Ala
			100					105					110		
Leu	Val	Leu	Leu	Cys	Ala	Gly	Ala	Ile	Gly	Asn	Val	Gly	Asp	Ile	Ile
		115						120				125			
Phe	Tyr	Gly	His	Ile	Val	Asp	Phe	Ile	Ser	Phe	Asn	Tyr	Lys	Gln	Trp
	130					135					140				
Ala	Phe	Pro	Thr	Phe	Asn	Val	Ala	Asp	Val	Leu	Ile	Ser	Leu	Gly	Thr
145					150					155				160	
Leu	Leu	Leu	Val	Tyr	Lys	Phe	Tyr	Phe	Pro	Thr	Lys	Gln	Thr	Glu	Lys
				165					170					175	

Lys Arg

<210> 538

<211> 464

<212> PRT

<213> Chlamydia pneumoniae

<400> 538

Tyr	Arg	Ser	Leu	Gln	Glu	Lys	Leu	Arg	Tyr	Phe	Phe	Lys	Thr	Val	Met
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Asn	Arg	Leu	Leu	Ser	Leu	Leu	Ser	Val	Phe	Asp	Asp	Phe	Phe	Trp	Ser
		20						25					30		
Tyr	Val	Ala	Phe	Ile	Leu	Ile	Ile	Val	Leu	Gly	Val	Ser	Phe	Ser	Trp
		35				40						45			
Lys	Ser	Arg	Phe	Phe	Gln	Phe	Thr	Lys	Phe	Ser	Gln	Phe	Cys	Lys	Leu
	50					55					60				
Phe	Arg	Tyr	Tyr	Ser	Gln	Asn	Pro	Gln	Glu	Arg	Glu	Thr	Lys	Gln	Gly
65					70					75				80	
Val	His	Pro	Leu	Lys	Val	Phe	Phe	Ala	Ser	Ala	Gly	Gly	Asn	Ile	Gly
				85					90					95	
Ile	Gly	Asn	Val	Val	Gly	Ile	Val	Thr	Ala	Ala	Cys	Ile	Gly	Gly	Pro
		100						105					110		
Gly	Ala	Leu	Phe	Trp	Val	Trp	Ile	Ala	Gly	Ile	Phe	Gly	Ser	Ile	Val
		115					120					125			
Lys	Tyr	Ser	Glu	Val	Tyr	Leu	Gly	Ile	Lys	Phe	Arg	Lys	Leu	Asp	Arg
	130					135					140				
Asp	Gly	Val	Tyr	Gln	Gly	Gly	Pro	Met	Tyr	Phe	Leu	Ile	Lys	Ala	Phe
145					150					155				160	
Lys	Thr	Pro	Val	Val	Ser	Val	Ile	Val	Ala	Ile	Leu	Leu	Cys	Ile	Tyr
				165					170					175	
Gly	Val	Glu	Ile	Tyr	Gln	Phe	Ser	Val	Ile	Thr	Asp	Ser	Leu	Ala	His
			180					185					190		
Cys	Trp	Asn	Leu	Pro	Lys	Val	Tyr	Pro	Met	Leu	Gly	Leu	Leu	Phe	Leu
		195					200					205			
Val	Phe	Tyr	Ala	Ile	Arg	Gly	Gly	Leu	Gln	Arg	Ile	Gly	Lys	Ile	Cys
	210					215						220			

Ser Ile Val Leu Pro Phe Phe Met Leu Leu Tyr Cys Ala Leu Ser Leu  
 225 230 235 240  
 Tyr Ile Leu Val Lys Glu Phe His Thr Leu Pro His Leu Leu Ser Thr  
 245 250 255  
 Val Phe Ser Ser Ala Phe Lys Gly Gln Ser Ala Leu Gly Gly Phe Ala  
 260 265 270  
 Gly Cys Thr Val Ala Thr Thr Ile His Gln Gly Ile Ser Arg Ala Ala  
 275 280 285  
 Tyr Ser Gly Asp Ile Gly Ile Gly Phe Asp Ser Ile Ile Gln Ser Glu  
 290 295 300  
 Ser Ser Ala Lys Asp Pro Ser Thr Gln Ala Gln Leu Ser Ile Val Gly  
 305 310 315 320  
 Ile Ala Ile Asp Asn Leu Ile Cys Thr Leu Ser Leu Leu Met Val Leu  
 325 330 335  
 Ala Ser Gly Ser Trp Ser Leu Gly Leu Glu Asn Ala Ser Gln Val Val  
 340 345 350  
 Glu His Thr Leu Ala Ser Tyr Phe Pro Met Val Lys Phe Phe Leu Pro  
 355 360 365

Thr Phe Phe Phe Val Thr Gly Tyr Thr Thr Ile Ile Ser Tyr Phe Leu  
 370 375 380  
 Val Gly Lys Lys Cys Ala Lys Phe Leu Tyr Gly Asn Thr Gly Ala Lys  
 385 390 395 400  
 Ile Tyr Thr Leu Tyr Gly Leu Leu Ile Leu Pro Leu Phe Cys Phe Leu  
 405 410 415  
 Ser Gln Asn Thr Ala Leu Leu Ile Met Ser Val Ser Gly Ala Leu Leu  
 420 425 430  
 Leu Cys Phe Asn Leu Leu Gly Val Phe Ile Leu Arg Lys Glu Val Ile  
 435 440 445  
 Phe Pro Ala Arg Ala Ala Ser Leu Thr Glu Thr Ser Leu Ser Thr Glu  
 450 455 460

<210> 539  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 539  
 Leu Ile Phe Leu Leu Phe Met Asp Asn Tyr Leu Leu Gly Ser Leu Ile  
 1 5 10 15  
 Phe Cys Cys Val Leu Leu Ser Ile Gly Met Cys Thr Ile Phe Val Met  
 20 25 30  
 Thr Ile Cys Phe Leu Arg Gln Leu Asn Lys Ile Leu Lys Asn Ile His  
 35 40 45  
 Arg Val Thr Thr Ile Leu Asn Phe Glu Ala Lys Ile Leu Ala Pro Leu  
 50 55 60  
 Met Leu Gly Lys Lys Leu Leu Cys Gly Trp Leu Lys Lys Arg Lys Asn  
 65 70 75 80  
 Arg Gly Ser Leu Ser Glu Asp Ile Asp Glu Leu Leu Asp Glu Lys Lys  
 85 90 95  
 Gln Arg Ser Trp Lys Lys Asn Leu Asp Gln Gly Ile Lys Trp Cys Ala  
 100 105 110  
 Ala Leu Val Leu Ile Trp Lys Val Phe Arg Asn Lys Asp  
 115 120 125

<210> 540  
 <211> 128  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 540  
 Thr Lys Glu Leu Asn Gly Ala Gln His Trp Ser Ser Phe Gly Lys Cys  
 1 5 10 15  
 Phe Val Ile Lys Ile Lys Thr Leu Arg Asp Ile Val Met Phe Arg Asn  
 20 25 30  
 Asn His Lys Pro Lys Lys Thr Lys Cys Lys Arg Phe Arg Trp Leu Arg  
 35 40 45  
 Gly Val Leu Phe Gly Gly Phe Ile Ala Thr Leu Leu Thr Cys Leu Phe  
 50 55 60  
 Thr Pro Lys Ser Gly Val Gln Leu Arg Lys Lys Ile Leu Lys Val Lys  
 65 70 75 80  
 Asn Ser Gly Ala Lys Lys Ser Arg Val Phe Phe Lys Asn Ser Lys Gln  
 85 90 95  
 His Thr Lys Ser Phe Val Lys Gln Ala Lys Leu Leu Ala Lys Asn Ile  
 100 105 110  
 Ser His Glu Leu Gln Asp Phe Lys Lys Gly Ile Leu Asp Asp Lys Asp  
 115 120 125

<210> 541  
 <211> 956  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 541  
 Gly Tyr Asn Leu Leu Gly Leu Arg His Met Lys Gln Met Arg Leu Trp  
 1 5 10 15  
 Gly Phe Leu Phe Leu Ser Ser Phe Cys Gln Val Ser Tyr Leu Arg Ala  
 20 25 30  
 Asn Asp Val Leu Leu Pro Leu Ser Gly Ile His Ser Gly Glu Asp Leu  
 35 40 45  
 Glu Leu Phe Thr Leu Arg Ser Ser Ser Pro Thr Lys Thr Thr Tyr Ser  
 50 55 60  
 Leu Arg Lys Asp Phe Ile Val Cys Asp Phe Ala Gly Asn Ser Ile His  
 65 70 75 80  
 Lys Pro Gly Ala Ala Phe Leu Asn Leu Lys Gly Asp Leu Phe Phe Ile  
 85 90 95  
 Asn Ser Thr Pro Leu Ala Ala Leu Thr Phe Lys Asn Ile His Leu Gly  
 100 105 110  
 Ala Arg Gly Ala Gly Leu Phe Ser Glu Ser Asn Val Thr Phe Lys Gly  
 115 120 125  
 Leu His Ser Leu Val Leu Glu Asn Asn Glu Ser Trp Gly Gly Val Leu  
 130 135 140  
 Thr Thr Ser Gly Asp Leu Ser Phe Ile Asn Asn Thr Ser Val Leu Cys  
 145 150 155 160  
 Gln Asn Asn Ile Ser Tyr Gly Pro Gly Gly Ala Leu Leu Leu Gln Gly  
 165 170 175  
 Arg Lys Ser Lys Ala Leu Phe Phe Arg Asp Asn Arg Gly Thr Ile Leu  
 180 185 190  
 Phe Leu Lys Asn Lys Ala Val Asn Gln Asp Glu Ser His Pro Gly Tyr  
 195 200 205  
 Gly Gly Ala Val Ser Ser Ile Ser Pro Gly Ser Pro Ile Thr Phe Ala  
 210 215 220  
 Asp Asn Gln Glu Ile Leu Phe Gln Glu Asn Glu Gly Glu Leu Gly Gly  
 225 230 235 240  
 Ala Ile Tyr Asn Asp Gln Gly Ala Ile Thr Phe Glu Asn Asn Phe Gln  
 245 250 255  
 Thr Thr Ser Phe Phe Ser Asn Lys Ala Ser Phe Gly Gly Ala Val Tyr  
 260 265 270  
 Ser Arg Tyr Cys Asn Leu Tyr Ser Gln Trp Gly Asp Thr Leu Phe Thr  
 275 280 285

Lys Asn Ala Ala Ala Lys Val Gly Gly Ala Ile His Ala Asp Tyr Val  
 290 295 300  
 His Ile Arg Asp Cys Lys Gly Ser Ile Val Phe Glu Glu Asn Ser Ala  
 305 310 315 320  
 Thr Ala Gly Gly Ala Ile Ala Val Asn Ala Val Cys Asp Ile Asn Ala  
 325 330 335  
 Gln Gly Pro Val Arg Phe Ile Asn Asn Ser Ala Leu Gly Leu Asn Gly  
 340 345 350  
 Gly Ala Ile Tyr Met Gln Ala Thr Gly Ser Ile Leu Arg Leu His Ala  
 355 360 365  
 Asn Gln Gly Asp Ile Glu Phe Cys Gly Asn Lys Val Arg Ser Gln Phe  
 370 375 380  
 His Ser His Ile Asn Ser Thr Ser Asn Phe Thr Asn Asn Ala Ile Thr  
 385 390 395 400  
 Ile Gln Gly Ala Pro Arg Glu Phe Ser Leu Ser Ala Asn Glu Gly His  
 405 410 415  
 Arg Ile Cys Phe Tyr Asp Pro Ile Ile Ser Ala Thr Glu Asn Tyr Asn  
 420 425 430  
 Ser Leu Tyr Ile Asn His Gln Arg Leu Leu Glu Ala Gly Gly Ala Val  
 435 440 445  
 Ile Phe Ser Gly Ala Arg Leu Ser Pro Glu His Lys Lys Glu Asn Lys  
 450 455 460  
 Asn Lys Thr Ser Ile Ile Asn Gln Pro Val Arg Leu Cys Ser Gly Val  
 465 470 475 480  
 Leu Ser Ile Glu Gly Gly Ala Ile Leu Ala Val Arg Ser Phe Tyr Gln  
 485 490 495  
 Glu Gly Gly Leu Leu Ala Leu Gly Pro Gly Ser Lys Leu Thr Thr Gln  
 500 505 510  
 Gly Lys Asn Ser Glu Lys Asp Lys Ile Val Ile Thr Asn Leu Gly Phe  
 515 520 525  
 Asn Leu Glu Asn Leu Asp Ser Ser Asp Pro Ala Glu Ile Arg Ala Thr  
 530 535 540  
 Glu Lys Ala Ser Ile Glu Ile Ser Gly Val Pro Arg Val Tyr Gly His  
 545 550 555 560  
 Thr Glu Ser Phe Tyr Glu Asn His Glu Tyr Ala Ser Lys Pro Tyr Thr  
 565 570 575  
 Thr Ser Ile Ile Leu Ser Ala Lys Lys Leu Val Thr Ala Pro Ser Arg  
 580 585 590  
 Pro Glu Lys Asp Ile Gln Asn Leu Ile Ile Ala Glu Ser Glu Tyr Met  
 595 600 605  
 Gly Tyr Gly Tyr Gln Gly Ser Trp Glu Phe Ser Trp Ser Pro Asn Asp  
 610 615 620  
 Thr Lys Glu Lys Lys Thr Ile Ile Ala Ser Trp Thr Pro Thr Gly Glu  
 625 630 635 640  
 Phe Ser Leu Asp Pro Lys Arg Arg Gly Ser Phe Ile Pro Thr Thr Leu  
 645 650 655  
 Trp Ser Thr Phe Ser Gly Leu Asn Ile Ala Ser Asn Ile Val Asn Asn  
 660 665 670  
 Asn Tyr Leu Asn Asn Ser Glu Val Ile Pro Leu Gln His Leu Cys Val  
 675 680 685  
 Phe Gly Gly Pro Val Tyr Gln Ile Met Glu Gln Asn Pro Lys Gln Ser  
 690 695 700  
 Ser Asn Asn Leu Leu Val Gln His Ala Gly His Asn Val Gly Ala Arg  
 705 710 715 720  
 Ile Pro Phe Ser Phe Asn Thr Ile Leu Ser Ala Ala Leu Thr Gln Leu  
 725 730 735  
 Phe Ser Ser Ser Ser Gln Gln Asn Val Ala Asp Lys Ser His Ala Gln  
 740 745 750  
 Ile Leu Ile Gly Thr Val Ser Leu Asn Lys Ser Trp Gln Ala Leu Ser  
 755 760 765

Leu Arg Ser Ser Phe Ser Tyr Thr Glu Asp Ser Gln Val Met Lys His  
 770 775 780  
 Val Phe Pro Tyr Lys Gly Thr Ser Arg Gly Ser Trp Arg Asn Tyr Gly  
 785 790 795 800  
 Trp Ser Gly Ser Val Gly Met Ser Tyr Ala Tyr Pro Lys Gly Ile Arg  
 805 810 815  
 Tyr Leu Lys Met Thr Pro Phe Val Asp Leu Gln Tyr Thr Lys Leu Val  
 820 825 830  
 Gln Asn Pro Phe Val Glu Thr Gly Tyr Asp Pro Arg Tyr Phe Ser Ser  
 835 840 845  
 Ser Glu Met Thr Asn Leu Ser Leu Pro Ile Gly Ile Ala Leu Glu Met  
 850 855 860  
 Arg Phe Ile Gly Ser Arg Ser Ser Leu Phe Leu Gln Val Ser Thr Ser  
 865 870 875 880  
 Tyr Ile Lys Asp Leu Arg Arg Val Asn Pro Gln Ser Ser Ala Ser Leu  
 885 890 895  
 Val Leu Asn His Tyr Thr Trp Asp Ile Gln Gly Val Pro Leu Gly Lys  
 900 905 910  
 Glu Ala Leu Asn Ile Thr Leu Asn Ser Thr Ile Lys Tyr Lys Ile Val  
 915 920 925  
 Thr Ala Tyr Met Gly Ile Ser Ser Thr Gln Arg Glu Gly Ser Asn Leu  
 930 935 940  
 Ser Ala Asn Ala His Ala Gly Leu Ser Leu Ser Phe  
 945 950 955

<210> 542  
 <211> 1744  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 542  
 Phe Ile His Leu Ile Tyr Leu Ser Leu Ile Glu Phe Val Asn Ile Ser  
 1 5 10 15  
 Asp Arg Phe Ser Ser Met Lys Trp Leu Pro Ala Thr Ala Val Phe Ala  
 20 25 30  
 Ala Val Leu Pro Ala Leu Thr Ala Phe Gly Asp Pro Ala Ser Val Glu  
 35 40 45  
 Ile Ser Thr Ser His Thr Gly Ser Gly Asp Pro Thr Ser Asp Ala Ala  
 50 55 60  
 Leu Thr Gly Phe Thr Gln Ser Ser Thr Glu Thr Asp Gly Thr Thr Tyr  
 65 70 75 80  
 Thr Ile Val Gly Asp Ile Thr Phe Ser Thr Phe Thr Asn Ile Pro Val  
 85 90 95  
 Pro Val Val Thr Pro Asp Ala Asn Asp Ser Ser Ser Asn Ser Ser Lys  
 100 105 110  
 Gly Gly Ser Ser Ser Ser Gly Ala Thr Ser Leu Ile Arg Ser Ser Asn  
 115 120 125  
 Leu His Ser Asp Phe Asp Phe Thr Lys Asp Ser Val Leu Asp Leu Tyr  
 130 135 140  
 His Leu Phe Phe Pro Ser Ala Ser Asn Thr Leu Asn Pro Ala Leu Leu  
 145 150 155 160  
 Ser Ser Ser Ser Ser Gly Gly Ser Ser Ser Ser Ser Ser Ser Ser  
 165 170 175  
 Ser Gly Ser Ala Ser Ala Val Val Ala Ala Asp Pro Lys Gly Gly Ala  
 180 185 190  
 Ala Phe Tyr Ser Asn Glu Ala Asn Gly Thr Leu Thr Phe Thr Thr Asp  
 195 200 205  
 Ser Gly Asn Pro Gly Ser Leu Thr Leu Gln Asn Leu Lys Met Thr Gly  
 210 215 220  
 Asp Gly Ala Ala Ile Tyr Ser Lys Gly Pro Leu Val Phe Thr Gly Leu  
 225 230 235 240



Lys	Asn	Leu	Thr	Phe	Thr	Gly	Asn	Glu	Ser	Gln	Lys	Ser	Gly	Gly	Ala		
				245					250					255			
Ala	Tyr	Thr	Glu	Gly	Ala	Leu	Thr	Thr	Gln	Ala	Ile	Val	Glu	Ala	Val		
			260					265					270				
Thr	Phe	Thr	Gly	Asn	Thr	Ser	Ala	Gly	Gln	Gly	Gly	Ala	Ile	Tyr	Val		
		275					280					285					
Lys	Glu	Ala	Thr	Leu	Phe	Asn	Ala	Leu	Asp	Ser	Leu	Lys	Phe	Glu	Lys		
	290					295					300						
Asn	Thr	Ser	Gly	Gln	Ala	Gly	Gly	Gly	Ile	Tyr	Thr	Glu	Ser	Thr	Leu		
305				310						315					320		
Thr	Ile	Ser	Asn	Ile	Thr	Lys	Ser	Ile	Glu	Phe	Ile	Ser	Asn	Lys	Ala		
			325					330						335			
Ser	Val	Pro	Ala	Pro	Ala	Pro	Glu	Pro	Thr	Ser	Pro	Ala	Pro	Ser	Ser		
		340					345						350				
Leu	Ile	Asn	Ser	Thr	Thr	Ile	Asp	Thr	Ser	Thr	Leu	Gln	Thr	Arg	Ala		
	355					360						365					
Ala	Ser	Ala	Thr	Pro	Ala	Val	Ala	Pro	Val	Ala	Ala	Val	Thr	Pro	Thr		
370						375					380						
Pro	Ile	Ser	Thr	Gln	Glu	Thr	Ala	Gly	Asn	Gly	Gly	Ala	Ile	Tyr	Ala		
385				390						395					400		
Lys	Gln	Gly	Ile	Ser	Ile	Ser	Thr	Phe	Lys	Asp	Leu	Thr	Phe	Lys	Ser		
			405						410					415			
Asn	Ser	Ala	Ser	Val	Asp	Ala	Thr	Leu	Thr	Val	Asp	Ser	Ser	Thr	Ile		
		420					425						430				
Gly	Glu	Ser	Gly	Gly	Ala	Ile	Phe	Ala	Ala	Asp	Ser	Ile	Gln	Ile	Gln		
	435						440					445					
Gln	Cys	Thr	Gly	Thr	Thr	Leu	Phe	Ser	Gly	Asn	Thr	Ala	Asn	Lys	Ser		
	450					455					460						
Gly	Gly	Gly	Ile	Tyr	Ala	Val	Gly	Gln	Val	Thr	Leu	Glu	Asp	Ile	Ala		
465				470					475					480			
Asn	Leu	Lys	Met	Thr	Asn	Asn	Thr	Cys	Lys	Gly	Glu	Gly	Gly	Ala	Ile		
			485						490					495			
Tyr	Thr	Lys	Lys	Ala	Leu	Thr	Ile	Asn	Asn	Gly	Ala	Ile	Leu	Thr	Thr		
		500						505					510				
Phe	Ser	Gly	Asn	Thr	Ser	Thr	Asp	Asn	Gly	Gly	Ala	Ile	Phe	Ala	Val		
	515						520					525					
Gly	Gly	Ile	Thr	Leu	Ser	Asp	Leu	Val	Glu	Val	Arg	Phe	Ser	Lys	Asn		
	530					535					540						
Lys	Thr	Gly	Asn	Tyr	Ser	Ala	Pro	Ile	Thr	Lys	Ala	Ala	Ser	Asn	Thr		
545				550						555					560		
Ala	Pro	Val	Val	Ser	Ser	Ser	Thr	Thr	Ala	Ala	Ser	Pro	Ala	Val	Pro		
			565						570					575			
Ala	Ala	Ala	Ala	Ala	Pro	Val	Thr	Asn	Ala	Ala	Lys	Gly	Gly	Ala	Leu		
		580					585						590				
Tyr	Ser	Thr	Glu	Gly	Leu	Thr	Val	Ser	Gly	Ile	Thr	Ser	Ile	Leu	Ser		
	595						600					605					
Phe	Glu	Asn	Asn	Glu	Cys	Gln	Asn	Gln	Gly	Gly	Gly	Ala	Tyr	Val	Thr		
	610					615					620						
Lys	Thr	Phe	Gln	Cys	Ser	Asp	Ser	His	Arg	Leu	Gln	Phe	Thr	Ser	Asn		
625				630						635					640		
Lys	Ala	Ala	Asp	Glu	Gly	Gly	Gly	Leu	Tyr	Cys	Gly	Asp	Asp	Val	Thr		
			645						650					655			
Leu	Thr	Asn	Leu	Thr	Gly	Lys	Thr	Leu	Phe	Gln	Glu	Asn	Ser	Ser	Glu		
		660					665						670				
Lys	His	Gly	Gly	Gly	Leu	Ser	Leu	Ala	Ser	Gly	Lys	Ser	Leu	Thr	Met		
	675						680						685				
Thr	Ser	Leu	Glu	Ser	Phe	Cys	Leu	Asn	Ala	Asn	Thr	Ala	Lys	Glu	Asn		
	690					695					700						
Gly	Gly	Gly	Ala	Asn	Val	Pro	Glu	Asn	Ile	Val	Leu	Thr	Phe	Thr	Tyr		
705				710						715					720		

Thr Pro Thr Pro Asn Glu Pro Ala Pro Val Gln Gln Pro Val Tyr Gly  
 725 730 735  
 Glu Ala Leu Val Thr Gly Asn Thr Ala Thr Lys Ser Gly Gly Ile  
 740 745 750  
 Tyr Thr Lys Asn Ala Ala Phe Ser Asn Leu Ser Ser Val Thr Phe Asp  
 755 760 765  
 Gln Asn Thr Ser Ser Glu Asn Gly Gly Ala Leu Leu Thr Gln Lys Ala  
 770 775 780  
 Ala Asp Lys Thr Asp Cys Ser Phe Thr Tyr Ile Thr Asn Val Asn Ile  
 785 790 795 800  
 Thr Asn Asn Thr Ala Thr Gly Asn Gly Gly Gly Ile Ala Gly Gly Lys  
 805 810 815  
 Ala His Phe Asp Arg Ile Asp Asn Leu Thr Val Gln Ser Asn Gln Ala  
 820 825 830  
 Lys Lys Gly Gly Gly Val Tyr Leu Glu Asp Ala Leu Ile Leu Glu Lys  
 835 840 845  
 Val Ile Thr Gly Ser Val Ser Gln Asn Thr Ala Thr Glu Ser Gly Gly  
 850 855 860  
 Gly Ile Tyr Ala Lys Asp Ile Gln Leu Gln Ala Leu Pro Gly Ser Phe  
 865 870 875 880  
 Thr Ile Thr Asp Asn Lys Val Glu Thr Ser Leu Thr Thr Ser Thr Asn  
 885 890 895  
 Leu Tyr Gly Gly Gly Ile Tyr Ser Ser Gly Ala Val Thr Leu Thr Asn  
 900 905 910  
 Ile Ser Gly Thr Phe Gly Ile Thr Gly Asn Ser Val Ile Asn Thr Ala  
 915 920 925  
 Thr Ser Gln Asp Ala Asp Ile Gln Gly Gly Gly Ile Tyr Ala Thr Thr  
 930 935 940  
 Ser Leu Ser Ile Asn Gln Cys Asn Thr Pro Ile Leu Phe Ser Asn Asn  
 945 950 955 960  
 Ser Ala Ala Thr Lys Lys Thr Ser Thr Thr Lys Gln Ile Ala Gly Gly  
 965 970 975  
 Ala Ile Phe Ser Ala Ala Val Thr Ile Glu Asn Asn Ser Gln Pro Ile  
 980 985 990  
 Ile Phe Leu Asn Asn Ser Ala Lys Ser Glu Ala Thr Thr Ala Ala Thr  
 995 1000 1005  
 Ala Gly Asn Lys Asp Ser Cys Gly Gly Ala Ile Ala Ala Asn Ser Val  
 1010 1015 1020  
 Thr Leu Thr Asn Asn Pro Glu Ile Thr Phe Lys Gly Asn Tyr Ala Glu  
 1025 1030 1035 1040  
 Thr Gly Gly Ala Ile Gly Cys Ile Asp Leu Thr Asn Gly Ser Pro Pro  
 1045 1050 1055  
 Arg Lys Val Ser Ile Ala Asp Asn Gly Ser Val Leu Phe Gln Asp Asn  
 1060 1065 1070  
 Ser Ala Leu Asn Arg Gly Gly Ala Ile Tyr Gly Glu Thr Ile Asp Ile  
 1075 1080 1085  
 Ser Arg Thr Gly Ala Thr Phe Ile Gly Asn Ser Ser Lys His Asp Gly  
 1090 1095 1100  
 Ser Ala Ile Cys Cys Ser Thr Ala Leu Thr Leu Ala Pro Asn Ser Gln  
 1105 1110 1115 1120  
 Leu Ile Phe Glu Asn Asn Lys Val Thr Glu Thr Thr Ala Thr Thr Lys  
 1125 1130 1135  
 Ala Ser Ile Asn Asn Leu Gly Ala Ala Ile Tyr Gly Asn Asn Glu Thr  
 1140 1145 1150  
 Ser Asp Val Thr Ile Ser Leu Ser Ala Glu Asn Gly Ser Ile Phe Phe  
 1155 1160 1165  
 Lys Asn Asn Leu Cys Thr Ala Thr Asn Lys Tyr Cys Ser Ile Ala Gly  
 1170 1175 1180  
 Asn Val Lys Phe Thr Ala Ile Glu Ala Ser Ala Gly Lys Ala Ile Ser  
 1185 1190 1195 1200

Phe Tyr Asp Ala Val Asn Val Ser Thr Lys Glu Thr Asn Ala Gln Glu  
1205 1210 1215  
Leu Lys Leu Asn Glu Lys Ala Thr Ser Thr Gly Thr Ile Leu Phe Ser  
1220 1225 1230  
Gly Glu Leu His Glu Asn Lys Ser Tyr Ile Pro Gln Lys Val Thr Phe  
1235 1240 1245  
Ala His Gly Asn Leu Ile Leu Gly Lys Asn Ala Glu Leu Ser Val Val  
1250 1255 1260  
Ser Phe Thr Gln Ser Pro Gly Thr Thr Ile Thr Met Gly Pro Gly Ser  
1265 1270 1275 1280  
Val Leu Ser Asn His Ser Lys Glu Ala Gly Gly Ile Ala Ile Asn Asn  
1285 1290 1295  
Val Ile Ile Asp Phe Ser Glu Ile Val Pro Thr Lys Asp Asn Ala Thr  
1300 1305 1310  
Val Ala Pro Pro Thr Leu Lys Leu Val Ser Arg Thr Asn Ala Asp Ser  
1315 1320 1325  
Lys Asp Lys Ile Asp Ile Thr Gly Thr Val Thr Leu Leu Asp Pro Asn  
1330 1335 1340  
Gly Asn Leu Tyr Gln Asn Ser Tyr Leu Gly Glu Asp Arg Asp Ile Thr  
1345 1350 1355 1360  
Leu Phe Asn Ile Asp Asn Ser Ala Ser Gly Ala Val Thr Ala Thr Asn  
1365 1370 1375  
Val Thr Leu Gln Gly Asn Leu Gly Ala Lys Lys Gly Tyr Leu Gly Thr  
1380 1385 1390  
Trp Asn Leu Asp Pro Asn Ser Ser Gly Ser Lys Ile Ile Leu Lys Trp  
1395 1400 1405  
Thr Phe Asp Lys Tyr Leu Arg Trp Pro Tyr Ile Pro Arg Asp Asn His  
1410 1415 1420  
Phe Tyr Ile Asn Ser Ile Trp Gly Ala Gln Asn Ser Leu Val Thr Val  
1425 1430 1435 1440  
Lys Gln Gly Ile Leu Gly Asn Met Leu Asn Asn Ala Arg Phe Glu Asp  
1445 1450 1455  
Pro Ala Phe Asn Asn Phe Trp Ala Ser Ala Ile Gly Ser Phe Leu Arg  
1460 1465 1470  
Lys Glu Val Ser Arg Asn Ser Asp Ser Phe Thr Tyr His Gly Arg Gly  
1475 1480 1485  
Tyr Thr Ala Ala Val Asp Ala Lys Pro Arg Gln Glu Phe Ile Leu Gly  
1490 1495 1500  
Ala Ala Phe Ser Gln Val Phe Gly His Ala Glu Ser Glu Tyr His Leu  
1505 1510 1515 1520  
Asp Asn Tyr Lys His Lys Gly Ser Gly His Ser Thr Gln Ala Ser Leu  
1525 1530 1535  
Tyr Ala Gly Asn Ile Phe Tyr Phe Pro Ala Ile Arg Ser Arg Pro Ile  
1540 1545 1550  
Leu Phe Gln Gly Val Ala Thr Tyr Gly Tyr Met Gln His Asp Thr Thr  
1555 1560 1565  
Thr Tyr Tyr Pro Ser Ile Glu Glu Lys Asn Met Ala Asn Trp Asp Ser  
1570 1575 1580  
Ile Ala Trp Leu Phe Asp Leu Arg Phe Ser Val Asp Leu Lys Glu Pro  
1585 1590 1595 1600  
Gln Pro His Ser Thr Ala Arg Leu Thr Phe Tyr Thr Glu Ala Glu Tyr  
1605 1610 1615  
Thr Arg Ile Arg Gln Glu Lys Phe Thr Glu Leu Asp Tyr Asp Pro Arg  
1620 1625 1630  
Ser Phe Ser Ala Cys Ser Tyr Gly Asn Leu Ala Ile Pro Thr Gly Phe  
1635 1640 1645  
Ser Val Asp Gly Ala Leu Ala Trp Arg Glu Ile Ile Leu Tyr Asn Lys  
1650 1655 1660  
Val Ser Ala Ala Tyr Leu Pro Val Ile Leu Arg Asn Asn Pro Lys Ala  
1665 1670 1675 1680

Thr Tyr Glu Val Leu Ser Thr Lys Glu Lys Gly Asn Val Val Asn Val  
 1685 1690 1695  
 Leu Pro Thr Arg Asn Ala Ala Arg Ala Glu Val Ser Ser Gln Ile Tyr  
 1700 1705 1710  
 Leu Gly Ser Tyr Trp Thr Leu Tyr Gly Thr Tyr Thr Ile Asp Ala Ser  
 1715 1720 1725  
 Met Asn Thr Leu Val Gln Met Ala Asn Gly Gly Ile Arg Phe Val Phe  
 1730 1735 1740

<210> 543  
 <211> 289  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 543  
 Asn Asn Arg Ser Ser Tyr Gln Thr Ala Phe Val Met His Lys Val Ile  
 1 5 10 15  
 Val Phe Ile Phe Leu Thr Leu Tyr Ser Leu Lys Ser Tyr Gly Asn Asp  
 20 25 30  
 Val Ile Asp Lys Pro His Val Leu Val Ser Ile Ala Pro Tyr Lys Phe  
 35 40 45  
 Leu Val Glu Gln Ile Ala Glu Glu Thr Cys Phe Val Tyr Ala Ile Val  
 50 55 60  
 Thr Asn His Tyr Asp Pro His Thr Tyr Glu Leu Pro Pro Gln Gln Ile  
 65 70 75 80  
 Lys Glu Leu Arg Gln Gly Asp Leu Trp Phe Arg Ile Gly Glu Ala Phe  
 85 90 95  
 Glu Lys Thr Cys Glu Arg Asn Leu Thr Cys Gln Gln Val Asp Leu Ser  
 100 105 110  
 Gln Asn Val Ser Leu Ile Gln Gly Lys Pro Cys Cys Asn Gln His Thr  
 115 120 125  
 Thr Asn Tyr Asp Thr His Thr Trp Leu Ser Pro Lys Asn Leu Lys Val  
 130 135 140  
 Gln Val Glu Thr Ile Val Thr Thr Leu Ser Lys Lys Tyr Pro Gln His  
 145 150 155 160  
 Ala Thr Leu Tyr Gln Ser Asn Gly Glu Lys Leu Leu Leu Ala Leu Asp  
 165 170 175  
 Gln Leu Asn Glu Glu Ile Leu Thr Ile Thr Ser Lys Ala Lys Gln Arg  
 180 185 190  
 His Ile Leu Val Ser His Gly Ala Phe Gly Tyr Phe Cys Arg Asp Tyr  
 195 200 205  
 Asn Phe Ser Gln His Thr Ile Glu Lys Ser Ser His Val Glu Pro Ser  
 210 215 220  
 Pro Lys Asp Val Ala Arg Val Phe Arg Asp Ile Glu Gln Tyr Lys Ile  
 225 230 235 240  
 Ser Ser Val Ile Leu Leu Glu Tyr Ser Gly Arg Arg Ser Ser Ala Met  
 245 250 255  
 Leu Ala Asp Arg Phe His Met His Thr Val Asn Leu Asp Pro Tyr Ala  
 260 265 270  
 Glu Asn Val Leu Val Asn Leu Lys Thr Ile Ala Thr Thr Phe Ser Ser  
 275 280 285  
 Leu

<210> 544  
 <211> 246  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 544

Phe Met Thr Ile Arg Ile Leu Ala Glu Gly Leu Ala Phe Arg Tyr Gly  
1 5 10 15  
Ser Lys Gly Pro Asn Ile Ile His Asp Val Ser Phe Ser Val Tyr Asp  
20 25 30  
Gly Asp Phe Ile Gly Ile Ile Gly Pro Asn Gly Gly Gly Lys Ser Thr  
35 40 45  
Leu Thr Met Leu Ile Leu Gly Leu Leu Thr Pro Thr Phe Gly Ser Leu  
50 55 60  
Lys Thr Phe Pro Ser His Ser Ala Gly Lys Gln Thr His Ser Met Ile  
65 70 75 80  
Gly Trp Val Pro Gln His Phe Ser Tyr Asp Pro Cys Phe Pro Ile Ser  
85 90 95  
Val Lys Asp Val Val Leu Ser Gly Arg Leu Ser Gln Leu Ser Trp His  
100 105 110  
Gly Lys Tyr Lys Lys Lys Asp Phe Glu Ala Val Asp His Ala Leu Asp  
115 120 125  
Leu Val Gly Leu Ser Asp His His His His Cys Phe Ala His Leu Ser  
130 135 140  
Gly Gly Gln Ile Gln Arg Val Leu Leu Ala Arg Ala Leu Ala Ser Tyr  
145 150 155 160  
Pro Glu Ile Leu Ile Leu Asp Glu Pro Thr Thr Asn Ile Asp Pro Asp  
165 170 175  
Asn Gln Gln Arg Ile Leu Ser Ile Leu Lys Lys Leu Asn Arg Thr Cys  
180 185 190  
Thr Ile Leu Met Val Thr His Asp Leu His His Thr Thr Asn Tyr Phe  
195 200 205  
Asn Lys Val Phe Tyr Met Asn Lys Thr Leu Thr Ser Leu Ala Asp Thr  
210 215 220  
Ser Thr Leu Thr Asp Gln Phe Cys Cys His Pro Tyr Lys Asn Gln Glu  
225 230 235 240  
Phe Ser Cys Ser Pro His  
245

<210> 545

<211> 298

<212> PRT

<213> Chlamydia pneumoniae

<400> 545

Lys Ser Gly Ile Phe Met Leu Ser Ser Leu Ile Arg Asp Ser Phe Pro  
1 5 10 15  
Leu Leu Ile Leu Leu Pro Thr Phe Leu Ala Ala Leu Gly Ala Ser Val  
20 25 30  
Ala Gly Gly Val Met Gly Thr Tyr Ile Val Val Lys Arg Ile Val Ser  
35 40 45  
Ile Ser Gly Ser Ile Ser His Ala Ile Leu Gly Gly Ile Gly Leu Thr  
50 55 60  
Leu Trp Ile Gln Tyr Lys Leu His Leu Ser Phe Phe Pro Met Tyr Gly  
65 70 75 80  
Ala Ile Val Gly Ala Ile Phe Leu Ala Leu Cys Ile Gly Lys Ile His  
85 90 95  
Leu Lys Tyr Gln Glu Arg Glu Asp Ser Leu Ile Ala Met Ile Trp Ser  
100 105 110  
Val Gly Met Ala Ile Gly Ile Ile Phe Ile Ser Arg Leu Pro Thr Phe  
115 120 125  
Asn Gly Glu Leu Ile Asn Phe Leu Phe Gly Asn Ile Leu Trp Val Thr  
130 135 140  
Pro Ser Asp Leu Tyr Ser Leu Gly Ile Phe Asp Leu Leu Val Leu Gly  
145 150 155 160

Ile Val Val Leu Cys His Thr Arg Phe Leu Ala Leu Cys Phe Asp Glu  
 165 170 175  
 Arg Tyr Thr Ala Leu Asn His Cys Ser Val Gln Leu Trp Tyr Phe Leu  
 180 185 190  
 Leu Leu Val Leu Thr Ala Ile Thr Ile Val Met Leu Ile Tyr Val Met  
 195 200 205  
 Gly Thr Ile Leu Met Leu Ser Met Leu Val Leu Pro Val Ala Ile Ala  
 210 215 220  
 Cys Arg Phe Ser Tyr Lys Met Thr Arg Ile Met Phe Ile Ser Val Leu  
 225 230 235 240  
 Leu Asn Ile Leu Cys Ser Phe Ser Gly Ile Cys Ile Ala Tyr Cys Leu  
 245 250 255  
 Asp Phe Pro Val Gly Pro Thr Ile Ser Leu Leu Met Gly Leu Gly Tyr  
 260 265 270  
 Thr Ala Ser Leu Cys Val Lys Lys Arg Tyr Asn Pro Ser Thr Pro Ser  
 275 280 285  
 Pro Val Ser Pro Glu Ile Asn Thr Asn Val  
 290 295

<210> 546  
 <211> 358  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 546  
 Lys Ser Ser Val Phe Cys Ser Gly Ile Lys Ser Ser Phe Phe Cys Leu  
 1 5 10 15  
 Lys Lys Asp Lys Asn Val Ile Met Phe Val Asp Gln Ile Thr Leu Glu  
 20 25 30  
 Leu Arg Ala Gly Lys Gly Gly Asn Gly Val Val Ala Trp Arg Lys Glu  
 35 40 45  
 Lys Tyr Leu Pro Lys Gly Gly Pro Tyr Gly Gly Asn Gly Gly Asn Gly  
 50 55 60  
 Gly Ser Val Ile Ile Glu Ala Thr Thr Ser Val Tyr Ser Phe Glu Ala  
 65 70 75 80  
 Tyr Arg Asn Ile Arg Phe Leu Lys Ala Pro Asp Gly Gln Ser Gly Ala  
 85 90 95  
 Thr Asn Asn Arg Thr Gly Arg Ser Gly Lys Asp Leu Ile Val Ser Val  
 100 105 110  
 Pro Thr Gly Thr Leu Leu Arg Asp Ala Glu Thr Gly Glu Ile Leu His  
 115 120 125  
 Asp Phe Thr Val Asp Gly Glu Arg Leu Leu Val Ser Gln Gly Gly Lys  
 130 135 140  
 Gly Gly Lys Gly Asn Thr Phe Phe Lys Thr Ser Val Asn Arg Ala Pro  
 145 150 155 160  
 Thr Lys Ala Thr Pro Gly Lys Pro Gly Glu Ile Arg Gln Val Glu Leu  
 165 170 175  
 Glu Leu Lys Leu Ile Ala Asp Ile Gly Leu Val Gly Phe Pro Asn Ala  
 180 185 190  
 Gly Lys Ser Thr Leu Phe Asn Thr Leu Ala His Thr Glu Val Lys Val  
 195 200 205  
 Gly Ala Tyr Pro Phe Thr Thr Leu Ala Pro Ser Leu Gly Leu Val Leu  
 210 215 220  
 Cys Lys Asp Arg Leu Tyr Gln Lys Pro Trp Ile Ile Ala Asp Ile Pro  
 225 230 235 240  
 Gly Ile Ile Glu Gly Ala His Gln Asn Lys Gly Leu Gly Leu Asp Phe  
 245 250 255  
 Leu Arg His Ile Glu Arg Thr Leu Leu Leu Leu Phe Val Ile Asp Val  
 260 265 270  
 Ser Lys Arg Glu Arg Asn Ser Pro Glu Glu Asp Leu Glu Thr Leu Ile  
 275 280 285

His Glu Leu His Ser His Gln Pro Asp Phe Glu Lys Lys Asp Met Leu  
 290 295 300  
 Val Ala Leu Asn Lys Ile Asp Asp Leu Leu Pro Asp Glu Gln Glu Glu  
 305 310 315 320  
 Cys Leu Gln Ser Phe Gln Lys Arg Phe Pro Ser Tyr Thr Phe Val Leu  
 325 330 335  
 Ile Ser Gly Leu Thr Gly Glu Gly Val Asp Gly Leu Tyr Arg Phe Phe  
 340 345 350  
 Thr Gln Arg Leu Ala Val  
 355

<210> 547  
 <211> 92  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 547  
 Thr Glu Ala Arg Glu Phe Arg Val Met Ala His Lys Lys Gly Gln Gly  
 1 5 10 15  
 Ala Ser Arg Asn Gly Arg Asp Ser Lys Ser Lys Arg Leu Gly Val Lys  
 20 25 30  
 Val Gly Ala Gly Gln Lys Val Ser Thr Gly Ser Ile Leu Val Arg Gln  
 35 40 45  
 Arg Gly Thr Arg Trp Asn Pro Ala Gln Asn Val Gly Arg Gly Arg Asp  
 50 55 60  
 Asp Thr Leu Phe Ala Leu Val Asp Gly Ile Val Val Met Lys Lys Thr  
 65 70 75 80  
 Asn Arg Thr Tyr Ile Ser Val Val Pro Glu Gln Leu  
 85 90

<210> 548  
 <211> 124  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 548  
 Leu Ser Lys Gln Arg Leu Thr Leu Ser Ile Glu Arg Phe Ile Arg Lys  
 1 5 10 15  
 Lys Leu Met Glu Pro Tyr Ala Val Ile Gln Thr Gly Ser Lys Gln Tyr  
 20 25 30  
 Gln Val Arg Ser Gly Asp Val Ile Asp Val Glu Leu Leu Gly Glu Val  
 35 40 45  
 Ala Ser Asp Lys Glu Val Ile Phe Gln Asp Val Leu Phe Val Phe Asp  
 50 55 60  
 Gly Thr Lys Ala Ser Leu Gly Ser Pro Thr Ile Ala Asn Ala Gln Val  
 65 70 75 80  
 Lys Ala Glu Tyr Leu Ser His Val Lys Gly Glu Lys Val Val Ala Tyr  
 85 90 95  
 Lys Tyr Lys Lys Arg Lys Asn Tyr His Arg Lys His Gly His Arg Gln  
 100 105 110  
 Lys Tyr Leu Arg Val Lys Ile Arg Glu Ile Leu Ile  
 115 120

<210> 549  
 <211> 200  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 549  
 Cys Val Asn Phe Arg Asn Phe Val Val Ser Ser Val Lys Glu Ile Leu  
 1 5 10 15

Lys Lys Asn Ile Tyr Gln Val Val Met Asp Arg Asp Asn Glu Val Pro  
 20 25 30  
 Leu Pro Lys Pro Lys Trp Ile Tyr Arg Thr Gly Ile Gly Gln Asp Ser  
 35 40 45  
 His Arg Phe Leu Pro Glu Ser Ser Thr Lys Pro Cys Ile Leu Gly Gly  
 50 55 60  
 Ile Ile Phe Asp His Cys Pro Gly Phe Gln Ala Asn Ser Asp Gly Asp  
 65 70 75 80  
 Ile Ile Phe His Ala Ile Cys Asn Ala Ile Ser Ser Val Thr Asn Lys  
 85 90 95  
 Ile Ile Leu Gly Lys Val Ala Asp Glu Leu Leu Gln Thr Arg Gly Ile  
 100 105 110  
 Thr Asp Ser Gly Ile Tyr Leu Glu Glu Ala Leu Lys Ser Leu Lys Pro  
 115 120 125  
 Asn Gln Lys Ile Ser His Val Ala Ile Thr Ile Glu Gly Ser Arg Pro  
 130 135 140  
 Lys Phe Leu Cys Lys Leu Ser Ala Leu Arg Gln Asn Ile Ala Gln Val  
 145 150 155 160  
 Met Asn Leu Thr Pro Thr Asp Ile Gly Ile Thr Ala Thr Ser Gly Glu  
 165 170 175  
 Gly Leu Ser Asp Phe Gly Cys Gly Asp Gly Val Gln Cys Phe Cys Val  
 180 185 190  
 Leu Thr Val Met Glu Tyr Cys Asp  
 195 200

<210> 550  
 <211> 348  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 550  
 Lys Met Tyr Leu Gln Glu Lys Phe Lys Ala Gln Gln Val Pro Leu Val  
 1 5 10 15  
 Leu Arg Glu Leu Leu Ser Cys Ser Asp Ser Ile Asn Asp Ser Asp Pro  
 20 25 30  
 Ile Tyr Arg Met Val Phe Asp Ser Asn Asp Thr Thr Ile Ser Tyr Lys  
 35 40 45  
 Val Gly Asp Ala Leu Gly Val Leu Pro Glu Asn Ser Lys Glu Val Ser  
 50 55 60  
 Glu His Val Leu Gln Leu Leu Gly Tyr Ser Pro Thr Thr Leu Val Asn  
 65 70 75 80  
 Val Lys Lys Thr Ser Glu Lys Val Ser Ala Gln Lys Phe Ile Gln Gly  
 85 90 95  
 Tyr Val Asp Leu Asp Lys Ile Pro Ala Lys Leu Asn Ser Phe Phe Pro  
 100 105 110  
 Asp Lys Asp Pro Lys Ile Thr Leu Tyr Asp Ala Ile Gln Glu Tyr Arg  
 115 120 125  
 Pro Gln Ile Pro Ile Glu Leu Phe Ala Glu Ser Val Phe Pro Leu Leu  
 130 135 140  
 Pro Arg Phe Tyr Ser Ile Ala Ser Ser Pro Asp Leu His Pro Lys Ser  
 145 150 155 160  
 Ile Glu Leu Leu Val Lys His Val Ser Tyr Pro Gly Lys Tyr Gln Lys  
 165 170 175  
 Arg Phe Gly Val Cys Ser Ser Phe Leu Cys Ser Glu Leu Gln Val Asn  
 180 185 190  
 Asp Ser Ala Tyr Ile Phe Val Gln Pro Thr Lys His Phe Thr Leu Ser  
 195 200 205  
 Thr Gln Thr Glu Gly Lys Pro Leu Val Met Ile Gly Ala Gly Thr Gly  
 210 215 220  
 Ile Ala Pro Tyr Lys Ala Phe Leu Glu Glu Arg Leu Phe Asn Lys Asp  
 225 230 235 240



Pro Gly Asn Asn Leu Leu Phe Phe Gly Glu Arg Lys Glu Lys Val Asn  
 245 250 255  
 Phe Tyr Tyr Arg Glu Phe Trp Asn His Ala Glu Glu Glu Gly Lys Leu  
 260 265 270  
 Lys Leu Phe Leu Ala Phe Ser Arg Glu Arg Asp Gln Lys Val Tyr Val  
 275 280 285  
 Gln Asp Leu Leu Arg Ile Gln Lys Asp Glu Val Arg Lys Ala Tyr Glu  
 290 295 300  
 Glu Gly Gly Phe Phe Phe Val Cys Gly Arg Lys Val Leu Gly Ile Glu  
 305 310 315 320  
 Val Lys His Ala Leu Glu Glu Ile Leu Gly Lys Asp Thr Leu Ala Ser  
 325 330 335  
 Leu Arg Lys Glu His Arg Tyr Val Val Asp Val Tyr  
 340 345

<210> 551

<211> 136

<212> PRT

<213> Chlamydia pneumoniae

<400> 551  
 Pro Gln Asp Val Gln His Gln Pro Trp Asn Gln His Ser Leu Leu Arg  
 1 5 10 15  
 Phe Leu Lys Lys Phe Lys Lys Arg Leu Leu Arg Ser Lys Gly Cys Met  
 20 25 30  
 Lys Gln Gln Lys Gln Lys Ile Arg Ile Arg Leu Lys Gly Phe Asp Gln  
 35 40 45  
 Gly Gln Leu Asp Arg Ser Thr Ala Asp Ile Val Glu Thr Ala Lys Arg  
 50 55 60  
 Thr Gly Ala Arg Val Val Gly Pro Ile Pro Leu Pro Thr Lys Arg Glu  
 65 70 75 80  
 Val Tyr Thr Val Leu Arg Ser Pro His Val Asp Lys Lys Ser Arg Glu  
 85 90 95  
 Gln Phe Glu Ile Arg Thr His Lys Arg Leu Val Asp Ile Leu Asp Pro  
 100 105 110  
 Thr Gly Lys Thr Ile Asp Ala Leu Lys Met Leu Ala Leu Pro Ala Gly  
 115 120 125  
 Val Asp Ile Lys Ile Lys Ala Ala  
 130 135

<210> 552

<211> 703

<212> PRT

<213> Chlamydia pneumoniae

<400> 552  
 Leu Asn Tyr Gly Glu Asn Asn Lys Phe Met Ser Asn Gln Glu Phe Asp  
 1 5 10 15  
 Leu Ser Ala Ile Arg Asn Ile Gly Ile Met Ala His Ile Asp Ala Gly  
 20 25 30  
 Lys Thr Thr Thr Thr Glu Arg Ile Leu Phe Tyr Ala Gly Arg Thr His  
 35 40 45  
 Lys Ile Gly Glu Val His Glu Gly Gly Ala Thr Met Asp Trp Met Ala  
 50 55 60  
 Gln Glu Gln Glu Arg Gly Ile Thr Ile Thr Ser Ala Ala Thr Thr Val  
 65 70 75 80  
 Phe Trp Leu Gly Ala Lys Ile Asn Ile Ile Asp Thr Pro Gly His Val  
 85 90 95  
 Asp Phe Thr Ile Glu Val Glu Arg Ser Leu Arg Val Leu Asp Gly Ala  
 100 105 110

Val Ala Val Phe Asp Ala Val Ser Gly Val Glu Pro Gln Ser Glu Thr  
 115 120 125  
 Val Trp Arg Gln Ala Asp Lys Tyr Gly Val Pro Arg Ile Ala Phe Val  
 130 135 140  
 Asn Lys Met Asp Arg Met Gly Ala Asp Tyr Phe Ala Ala Val Glu Ser  
 145 150 155 160  
 Met Lys Glu Lys Leu Gly Ala Asn Ala Phe Pro Val His Cys Pro Ile  
 165 170 175  
 Gly Ser Glu Ser Gln Phe Val Gly Met Val Asp Leu Ile Ser Gln Lys  
 180 185 190  
 Ala Leu Tyr Phe Leu Asp Asp Thr Leu Gly Ala Lys Trp Glu Glu Lys  
 195 200 205  
 Glu Ile Ser Glu Asp Leu Lys Glu Arg Cys Ala Glu Leu Arg Ala Asn  
 210 215 220  
 Leu Leu Glu Glu Leu Ala Thr Ile Asp Glu Ser Asn Glu Ala Phe Met  
 225 230 235 240  
 Met Lys Val Leu Glu Asp Pro Asp Ser Ile Thr Glu Asp Glu Ile His  
 245 250 255  
 Gln Val Met Arg Lys Gly Val Ile Glu Asn Lys Ile Asn Pro Val Leu  
 260 265 270  
 Cys Gly Thr Ala Phe Lys Asn Lys Gly Val Gln Gln Leu Leu Asn Val  
 275 280 285  
 Ile Val Lys Trp Leu Pro Ser Pro Leu Asp Arg Gly Asn Ile Arg Gly  
 290 295 300  
 Ile Asn Leu Lys Thr Asp Gln Glu Ile Ser Leu Glu Pro Arg Arg Asp  
 305 310 315 320  
 Gly Pro Leu Ala Ala Leu Ala Phe Lys Ile Met Thr Asp Pro Tyr Val  
 325 330 335  
 Gly Arg Ile Thr Phe Ile Arg Ile Tyr Ser Gly Thr Leu Lys Lys Gly  
 340 345 350  
 Ser Ala Ile Leu Asn Ser Thr Lys Asp Lys Lys Glu Arg Ile Ser Arg  
 355 360 365  
 Leu Leu Glu Met His Ala Asn Glu Arg Thr Asp Arg Asp Glu Phe Thr  
 370 375 380  
 Val Gly Asp Ile Gly Ala Cys Val Gly Leu Lys Phe Ser Val Thr Gly  
 385 390 395 400  
 Asp Thr Leu Cys Asp Asp Asn Gln Glu Ile Val Leu Glu Arg Ile Glu  
 405 410 415  
 Phe Pro Asp Pro Val Ile Asp Met Ala Ile Glu Pro Lys Ser Lys Gly  
 420 425 430  
 Asp Arg Glu Lys Leu Ala Gln Ala Leu Ser Ser Leu Ser Glu Glu Asp  
 435 440 445  
 Pro Thr Phe Arg Val Ser Thr Asn Glu Glu Thr Gly Gln Thr Ile Ile  
 450 455 460  
 Ser Gly Met Gly Glu Leu His Leu Asp Ile Leu Arg Asp Arg Met Ile  
 465 470 475 480  
 Arg Glu Phe Lys Val Glu Ala Asn Val Gly Lys Pro Gln Val Ser Tyr  
 485 490 495  
 Lys Glu Thr Ile Thr Val Ser Gly Asn Ser Glu Thr Lys Tyr Val Lys  
 500 505 510  
 Gln Ser Gly Gly Arg Gly Gln Tyr Ala His Val Cys Leu Glu Ile Glu  
 515 520 525  
 Pro Asn Glu Pro Gly Lys Gly Asn Glu Val Val Ser Lys Ile Val Gly  
 530 535 540  
 Gly Val Ile Pro Lys Glu Tyr Ile Pro Ala Val Ile Lys Gly Ile Glu  
 545 550 555 560  
 Glu Gly Leu Asn Thr Gly Val Leu Ala Gly Tyr Gly Leu Val Asp Val  
 565 570 575  
 Lys Val Ser Ile Val Phe Gly Ser Tyr His Glu Val Asp Ser Ser Glu  
 580 585 590

Met Ala Phe Lys Ile Cys Gly Ser Met Ala Val Lys Asp Ala Cys Arg  
595 600 605  
Lys Ala Lys Pro Val Ile Leu Glu Pro Ile Met Lys Val Ala Val Ile  
610 615 620  
Thr Pro Glu Asp His Leu Gly Asp Val Ile Gly Asp Leu Asn Arg Arg  
625 630 635 640  
Arg Gly Lys Ile Leu Gly Gln Glu Ser Ser Arg Gly Met Ala Gln Val  
645 650 655  
Asn Ala Glu Val Pro Leu Ser Glu Met Phe Gly Tyr Thr Thr Ser Leu  
660 665 670  
Arg Ser Leu Thr Ser Gly Arg Ala Thr Ser Thr Met Glu Pro Ala Phe  
675 680 685  
Phe Ala Lys Val Pro Gln Lys Ile Gln Glu Glu Ile Val Lys Lys  
690 695 700

<210> 553

<211> 159

<212> PRT

<213> Chlamydia pneumoniae

<400> 553

Met Tyr Met Ser Arg Arg His Ser Ala Glu Lys Arg Asp Ile Pro Gly  
1 5 10 15  
Asp Pro Ile Tyr Gly Ser Val Ile Leu Glu Lys Phe Ile Asn Lys Val  
20 25 30  
Met Met His Gly Lys Lys Ser Val Ala Arg Lys Ile Val Tyr Ser Ala  
35 40 45  
Leu Glu Arg Phe Gly Lys Lys Leu Asn Leu Glu Asn Val Leu Glu Gly  
50 55 60  
Phe Gly Glu Ala Leu Glu Asn Ala Lys Pro Ile Leu Glu Val Arg Ser  
65 70 75 80  
Arg Arg Val Gly Gly Ala Thr Tyr Gln Val Pro Val Glu Val Ala Ser  
85 90 95  
Glu Arg Arg Asn Cys Leu Ala Met Gln Trp Ile Ile Lys His Ala Arg  
100 105 110  
Ser Lys Pro Gly Lys Ser Met Glu Val Gly Leu Ala Thr Glu Leu Ile  
115 120 125  
Asp Cys Phe Asn Lys Gln Gly Ala Thr Ile Lys Lys Arg Glu Asp Thr  
130 135 140  
His Arg Met Ala Glu Ala Asn Lys Ala Phe Ala His Tyr Lys Trp  
145 150 155

<210> 554

<211> 160

<212> PRT

<213> Chlamydia pneumoniae

<400> 554

Ile Gln Ala Gly Tyr Val Pro Ser Ser Ser Glu Asn Lys Pro Leu Pro  
1 5 10 15  
Thr Lys Arg Ala Leu Leu Tyr Ile Ser Met Leu Val Val Val Arg Leu  
20 25 30  
Lys Arg Glu Glu Tyr Met Pro Thr Ile Asn Gln Leu Ile Arg Lys Arg  
35 40 45  
Arg Lys Ser Ser Leu Ala Arg Lys Lys Ser Pro Ala Leu Gln Lys Cys  
50 55 60  
Pro Gln Lys Arg Gly Val Cys Leu Gln Val Lys Thr Lys Thr Pro Lys  
65 70 75 80  
Lys Pro Asn Ser Ala Leu Arg Lys Val Ala Trp Val Arg Leu Ser Asn  
85 90 95

Gly Gln Glu Val Ile Ala Tyr Ile Gly Gly Glu Gly His Asn Leu Gln  
100 105 110  
Glu His Ser Ile Val Leu Ile Gln Gly Gly Arg Val Lys Asp Leu Pro  
115 120 125  
Gly Val Arg Tyr His Ile Val Arg Gly Thr Leu Asp Cys Ala Ala Val  
130 135 140  
Lys Asn Arg Lys Gln Ser Arg Ser Arg Tyr Gly Ala Lys Arg Pro Lys  
145 150 155 160

<210> 555  
<211> 314  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 555  
Gly Cys Met Trp Arg Val Val Leu Arg Phe Leu Ile Ile Phe Ile Leu  
1 5 10 15  
Gly Arg Ala Val Phe Pro Leu Arg Ala Ser Glu Ser Phe Ser Trp Glu  
20 25 30  
Thr Ser Thr Cys Leu Thr Val Leu Gly Ile Pro Phe Ile Asp Ile Ile  
35 40 45  
Leu Thr Thr Asn Glu Asp Phe Val Ala Gln Cys Gly Leu Gln Ile Gly  
50 55 60  
Thr Ile Ser Ser Thr Asn Asn Ala Lys Ile Lys Glu Ile Phe Leu Ile  
65 70 75 80  
Tyr Lys Glu Lys Phe Pro Glu Ala Ser Ile Ser Phe Lys Arg Lys Glu  
85 90 95  
Pro Leu Asn Leu Ser Gln Ser His Leu Ser Asp Leu Gly Ile Leu Cys  
100 105 110  
Met Arg Asn Gly Glu Thr Tyr Ala Glu Gly Met Ala Asn Lys Glu Asn  
115 120 125  
Gly Pro Ala Leu Lys Gln Pro Lys Asp Leu Arg Leu Val Leu Arg Cys  
130 135 140  
Pro Asn Gln Pro Asp Thr Leu Leu Tyr Ser Glu Lys Glu Ala Glu Lys  
145 150 155 160  
Gly Ile Glu Thr Asn Thr Cys Leu Cys Asn Gln Gly Tyr Thr Leu Leu  
165 170 175  
Asp Gly Gln Leu Ile Leu Tyr Gly Asp Ser Ile Glu Lys Phe Leu Lys  
180 185 190  
Glu Thr Lys Arg Lys Asn Asn His Thr Leu Val Asp Leu Cys Asp Ser  
195 200 205  
Gln Val Val Thr Thr Phe Leu Gly Arg Phe Trp Ser Leu Leu Asn Tyr  
210 215 220  
Val Gln Val Leu Phe Leu Ser Glu Asp Ser Ala Lys Ile Leu Ala Gly  
225 230 235 240  
Ile Pro Asp Leu Ala Gln Ala Thr Gln Leu Leu Ser His Thr Val Pro  
245 250 255  
Leu Leu Phe Ile Tyr Thr Asn Asp Ser Ile His Ile Ile Glu Gln Gly  
260 265 270  
Lys Glu Ser Ser Phe Thr Tyr Asn Gln Asp Leu Thr Glu Pro Ile Leu  
275 280 285  
Gly Phe Leu Phe Gly Tyr Ile Asn Arg Gly Ser Met Glu Tyr Cys Phe  
290 295 300  
Asn Cys Ala Gln Ser Ser Leu Gly Glu Thr  
305 310

<210> 556  
<211> 112  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 556  
Val Phe Ser Tyr Leu Leu Leu Cys Ile Ile Leu Val Tyr Val Arg Phe  
1 5 10 15  
Met Tyr Glu Gly Lys Ser Arg Met Ala Ser Pro Thr Pro Gly Gln Leu  
20 25 30  
His Leu Gln Gln Lys Val Glu Ser Lys Ala Tyr Asp Tyr Ser Arg Ser  
35 40 45  
Leu Ala Met Ile Ala Thr Ala Leu Leu Phe Phe Ile Val Ala Leu Ile  
50 55 60  
Leu Ser Gly Leu Ser Leu Leu Pro Gln Val Phe Leu Pro Phe Ser Gly  
65 70 75 80  
Ala Tyr Phe Ile Ile Gly Ser Phe Leu Ala Phe Ile Ala Leu Gly Ile  
85 90 95  
Leu Leu Ile Asn Cys Val Cys Asp Leu Lys Gln Tyr Leu Thr Ser Ser  
100 105 110

<210> 557  
<211> 648  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 557  
Met Phe Val Met Lys Lys Leu Val Arg Leu Cys Val Val Leu Leu Ser  
1 5 10 15  
Leu Leu Pro Asn Val Leu Phe Ser Ser Asp Leu Leu Arg Glu Glu Gly  
20 25 30  
Ile Lys Lys Met Met Asp Lys Leu Ile Glu Tyr His Val Asp Ala Gln  
35 40 45  
Glu Val Ser Thr Asp Ile Leu Ser Arg Ser Leu Ser Ser Tyr Ile Gln  
50 55 60  
Ser Phe Asp Pro His Lys Ser Tyr Leu Ser Asn Gln Glu Val Ala Val  
65 70 75 80  
Phe Leu Gln Ser Pro Glu Thr Lys Lys Arg Leu Leu Lys Asn Tyr Lys  
85 90 95  
Ala Gly Asn Phe Ala Ile Tyr Arg Asn Ile Asn Gln Leu Ile His Glu  
100 105 110  
Ser Ile Leu Arg Ala Arg Gln Trp Arg Asn Glu Trp Val Lys Asn Pro  
115 120 125  
Lys Glu Leu Val Leu Glu Ala Ser Ser Tyr Gln Ile Ser Lys Gln Pro  
130 135 140  
Met Gln Trp Ser Lys Ser Leu Asp Glu Val Lys Gln Arg Gln Arg Ala  
145 150 155 160  
Leu Leu Leu Ser Tyr Leu Ser Leu His Leu Ala Gly Ala Ser Ser Ser  
165 170 175  
Arg Tyr Glu Gly Lys Glu Glu Gln Leu Ala Ala Leu Cys Leu Arg Gln  
180 185 190  
Ile Glu Asn His Glu Asn Val Tyr Leu Gly Ile Asn Asp His Gly Val  
195 200 205  
Ala Met Asp Arg Asp Glu Glu Ala Tyr Gln Phe His Ile Arg Val Val  
210 215 220  
Lys Ala Leu Ala His Ser Leu Asp Ala His Thr Ala Tyr Phe Ser Lys  
225 230 235 240  
Asp Glu Ala Leu Ala Met Arg Ile Gln Leu Glu Lys Gly Met Cys Gly  
245 250 255  
Ile Gly Val Val Leu Lys Glu Asp Ile Asp Gly Val Val Val Arg Glu  
260 265 270  
Ile Ile Pro Gly Gly Pro Ala Ala Lys Ser Gly Asp Leu Gln Leu Gly  
275 280 285  
Asp Ile Ile Tyr Arg Val Asp Gly Lys Asp Ile Glu His Leu Ser Phe  
290 295 300

Arg Gly Val Leu Asp Cys Leu Arg Gly Gly His Gly Ser Thr Val Val  
 305 310 315 320  
 Leu Asp Ile His Arg Gly Glu Ser Asp His Thr Ile Ala Leu Arg Arg  
 325 330 335  
 Glu Lys Ile Leu Leu Glu Asp Arg Arg Val Asp Val Ser Tyr Glu Pro  
 340 345 350  
 Tyr Gly Asp Gly Val Ile Gly Lys Val Thr Leu His Ser Phe Tyr Glu  
 355 360 365  
 Gly Glu Asn Gln Val Ser Ser Glu Gln Asp Leu Arg Arg Ala Ile Gln  
 370 375 380  
 Gly Leu Lys Glu Lys Asn Leu Leu Gly Leu Val Leu Asp Ile Arg Glu  
 385 390 395 400  
 Asn Thr Gly Gly Phe Leu Ser Gln Ala Ile Lys Val Ser Gly Leu Phe  
 405 410 415  
 Met Thr Asn Gly Val Val Val Val Ser Arg Tyr Ala Asp Gly Thr Met  
 420 425 430  
 Lys Cys Tyr Arg Thr Val Ser Pro Lys Lys Phe Tyr Asp Gly Pro Leu  
 435 440 445  
 Ala Ile Leu Val Ser Lys Ser Ala Ser Ala Ala Glu Ile Val Ala  
 450 455 460  
 Gln Thr Leu Gln Asp Tyr Gly Val Ala Leu Val Val Gly Asp Glu Gln  
 465 470 475 480  
 Thr Tyr Gly Lys Gly Thr Ile Gln His Gln Thr Ile Thr Gly Asp Ala  
 485 490 495  
 Ser Gln Asp Asp Cys Phe Lys Val Thr Val Gly Lys Tyr Tyr Ser Pro  
 500 505 510  
 Ser Gly Lys Ser Thr Gln Leu Gln Gly Val Lys Ser Asp Ile Leu Ile  
 515 520 525  
 Pro Ser Leu Tyr Ala Glu Asp Arg Leu Gly Glu Arg Phe Leu Glu His  
 530 535 540  
 Pro Leu Pro Ala Asp Cys Cys Asp Asn Val Leu His Asp Pro Leu Thr  
 545 550 555 560  
 Asp Leu Asp Thr Gln Thr Arg Pro Trp Phe Gln Lys Tyr Tyr Leu Pro  
 565 570 575  
 Asn Leu Gln Lys Gln Glu Thr Leu Trp Arg Glu Met Leu Pro Gln Leu  
 580 585 590  
 Thr Lys Asn Ser Glu Gln Arg Leu Ser Glu Asn Ser Asn Phe Gln Ala  
 595 600 605  
 Phe Leu Ser Gln Ile Lys Ser Ser Glu Lys Thr Asp Leu Ser Tyr Gly  
 610 615 620  
 Ser Asn Asp Leu Gln Leu Glu Glu Ser Ile Asn Ile Leu Lys Asp Met  
 625 630 635 640  
 Ile Leu Leu Gln Gln Cys Arg Lys  
 645

<210> 558

<211> 199

<212> PRT

<213> Chlamydia pneumoniae

<400> 558

Glu Asn Gly Met Ser Ser Asn Leu His Pro Val Gly Gly Thr Gly Thr  
 1 5 10 15  
 Gly Ala Ala Ala Pro Glu Ser Val Leu Asn Ile Val Glu Glu Ile Ala  
 20 25 30  
 Ala Ser Gly Ser Val Thr Ala Gly Leu Gln Ala Ile Thr Ser Ser Pro  
 35 40 45  
 Gly Met Val Asn Leu Leu Ile Gly Trp Ala Lys Thr Lys Phe Ile Gln  
 50 55 60  
 Pro Ile Arg Glu Ser Lys Leu Phe Gln Ser Arg Ala Cys Gln Ile Thr  
 65 70 75 80

Leu Leu Val Leu Gly Ile Leu Leu Val Val Ala Gly Leu Ala Cys Met  
 85 90 95  
 Phe Ile Phe His Ser Gln Leu Gly Ala Asn Ala Phe Trp Leu Ile Ile  
 100 105 110  
 Pro Ala Ala Ile Gly Leu Ile Lys Leu Leu Val Thr Ser Leu Cys Phe  
 115 120 125  
 Asp Glu Ala Cys Thr Ser Glu Lys Leu Met Val Phe Gln Lys Trp Ala  
 130 135 140  
 Gly Val Leu Glu Asp Gln Leu Asp Asp Gly Ile Leu Asn Asn Ser Asn  
 145 150 155 160  
 Lys Ile Phe Gly His Val Lys Thr Glu Gly Asn Thr Ser Arg Ala Thr  
 165 170 175  
 Thr Pro Val Leu Asn Asp Gly Arg Gly Thr Pro Val Leu Ser Pro Leu  
 180 185 190  
 Val Ser Lys Ile Ala Arg Val  
 195

<210> 559  
 <211> 559  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 559  
 Glu Ile Pro Met Ser Lys Leu Ile Arg Arg Val Val Thr Val Leu Ala  
 1 5 10 15  
 Leu Thr Ser Met Ala Ser Cys Phe Ala Ser Gly Gly Ile Glu Ala Ala  
 20 25 30  
 Val Ala Glu Ser Leu Ile Thr Lys Ile Val Ala Ser Ala Glu Thr Lys  
 35 40 45  
 Pro Ala Pro Val Pro Met Thr Ala Lys Lys Val Arg Leu Val Arg Arg  
 50 55 60  
 Asn Lys Gln Pro Val Glu Gln Lys Ser Arg Gly Ala Phe Cys Asp Lys  
 65 70 75 80  
 Glu Phe Tyr Pro Cys Glu Glu Gly Arg Cys Gln Pro Val Glu Ala Gln  
 85 90 95  
 Gln Glu Ser Cys Tyr Gly Arg Leu Tyr Ser Val Lys Val Asn Asp Asp  
 100 105 110  
 Cys Asn Val Glu Ile Cys Gln Ser Val Pro Glu Tyr Ala Thr Val Gly  
 115 120 125  
 Ser Pro Tyr Pro Ile Glu Ile Leu Ala Ile Gly Lys Lys Asp Cys Val  
 130 135 140  
 Asp Val Val Ile Thr Gln Gln Leu Pro Cys Glu Ala Glu Phe Val Ser  
 145 150 155 160  
 Ser Asp Pro Glu Thr Thr Pro Thr Ser Asp Gly Lys Leu Val Trp Lys  
 165 170 175  
 Ile Asp Arg Leu Gly Ala Gly Asp Lys Cys Lys Ile Thr Val Trp Val  
 180 185 190  
 Lys Pro Leu Lys Glu Gly Cys Cys Phe Thr Ala Ala Thr Val Cys Ala  
 195 200 205  
 Cys Pro Glu Leu Arg Ser Tyr Thr Lys Cys Gly Gln Pro Ala Ile Cys  
 210 215 220  
 Ile Lys Gln Glu Gly Pro Asp Cys Ala Cys Leu Arg Cys Pro Val Cys  
 225 230 235 240  
 Tyr Lys Ile Glu Val Val Asn Thr Gly Ser Ala Ile Ala Arg Asn Val  
 245 250 255  
 Thr Val Asp Asn Pro Val Pro Asp Gly Tyr Ser His Ala Ser Gly Gln  
 260 265 270  
 Arg Val Leu Ser Phe Asn Leu Gly Asp Met Arg Pro Gly Asp Lys Lys  
 275 280 285  
 Val Phe Thr Val Glu Phe Cys Pro Gln Arg Arg Gly Gln Ile Thr Asn  
 290 295 300

Val Ala Thr Val Thr Tyr Cys Gly Gly His Lys Cys Ser Ala Asn Val  
 305 310 315 320  
 Thr Thr Val Val Asn Glu Pro Cys Val Gln Val Asn Ile Ser Gly Ala  
 325 330 335  
 Asp Trp Ser Tyr Val Cys Lys Pro Val Glu Tyr Ser Ile Ser Val Ser  
 340 345 350  
 Asn Pro Gly Asp Leu Val Leu His Asp Val Val Ile Gln Asp Thr Leu  
 355 360 365  
 Pro Ser Gly Val Thr Val Leu Glu Ala Pro Gly Gly Glu Ile Cys Cys  
 370 375 380  
 Asn Lys Val Val Trp Arg Ile Lys Glu Met Cys Pro Gly Glu Thr Leu  
 385 390 395 400  
 Gln Phe Lys Leu Val Val Lys Ala Gln Val Pro Gly Arg Phe Thr Asn  
 405 410 415  
 Gln Val Ala Val Thr Ser Glu Ser Asn Cys Gly Thr Cys Thr Ser Cys  
 420 425 430  
 Ala Glu Thr Thr Thr His Trp Lys Gly Leu Ala Ala Thr His Met Cys  
 435 440 445  
 Val Leu Asp Thr Asn Asp Pro Ile Cys Val Gly Glu Asn Thr Val Tyr  
 450 455 460  
 Arg Ile Cys Val Thr Asn Arg Gly Ser Ala Glu Asp Thr Asn Val Ser  
 465 470 475 480  
 Leu Ile Leu Lys Phe Ser Lys Glu Leu Gln Pro Ile Ala Ser Ser Gly  
 485 490 495  
 Pro Thr Lys Gly Thr Ile Ser Gly Asn Thr Val Val Phe Asp Ala Leu  
 500 505 510  
 Pro Lys Leu Gly Ser Lys Glu Ser Val Glu Phe Ser Val Thr Leu Lys  
 515 520 525  
 Gly Ile Ala Pro Gly Asp Ala Arg Gly Glu Ala Ile Leu Ser Ser Asp  
 530 535 540  
 Thr Leu Thr Ser Pro Val Ser Asp Thr Glu Asn Thr His Val Tyr  
 545 550 555

<210> 560  
 <211> 92  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 560  
 Lys Leu Met Lys Lys Ala Val Leu Ile Ala Ala Met Phe Cys Gly Val  
 1 5 10 15  
 Val Ser Leu Ser Ser Cys Cys Arg Ile Val Asp Cys Cys Phe Glu Asp  
 20 25 30  
 Pro Cys Ala Pro Ser Ser Cys Asn Pro Cys Glu Val Ile Arg Lys Lys  
 35 40 45  
 Glu Arg Ser Cys Gly Gly Asn Ala Cys Gly Ser Tyr Val Pro Ser Cys  
 50 55 60  
 Ser Asn Pro Cys Gly Ser Thr Glu Cys Asn Ser Gln Ser Pro Gln Val  
 65 70 75 80  
 Lys Gly Cys Thr Ser Pro Asp Gly Arg Cys Lys Gln  
 85 90

<210> 561  
 <211> 76  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 561  
 Gln Asn Asn Phe Val Thr Leu Lys Asn Lys Asn Glu Gly Glu Met Lys  
 1 5 10 15



Leu Phe Tyr Phe Cys Asn Ile Ile Phe Leu Thr Ser Leu Phe Ser Val  
                   20                                  25                                  30  
 Ser Cys Thr His Thr Pro Pro Pro Arg Ser Tyr Ile Leu Ala Gln Gly  
                   35                                  40                                  45  
 Arg Thr Pro Leu Val Asn Lys Ala His Ser Leu Glu Phe Phe Leu Ala  
                   50                                  55                                  60  
 Arg Ser Val Phe Asn Thr Cys Tyr Asn Thr Asn Leu  
                   65                                  70                                  75

<210> 562  
 <211> 523  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 562  
 Arg Asn Ser Arg Phe Gln Gly Met Lys Ser Leu Trp Ser Lys Asp Lys  
   1                                  5                                  10                                  15  
 Arg Ile Met Asn Trp Glu Asn Val Arg Val Arg Val Ala Pro Ser Pro  
                   20                                  25                                  30  
 Thr Gly Asp Pro His Val Gly Thr Ala Tyr Met Ala Leu Phe Asn Glu  
                   35                                  40                                  45  
 Ile Phe Ala Lys Arg Phe Lys Gly Lys Met Ile Leu Arg Ile Glu Asp  
                   50                                  55                                  60  
 Thr Asp Arg Thr Arg Ser Arg Gln Asp Tyr Glu Glu Asn Ile Phe Ser  
                   65                                  70                                  75                                  80  
 Ala Leu Arg Trp Cys Gly Ile Gln Trp Asp Glu Gly Pro Asp Val Gly  
                   85                                  90                                  95  
 Gly Pro Tyr Gly Pro Tyr Arg Gln Ser Glu Arg Thr Lys Ile Tyr Gln  
                   100                                  105                                  110  
 Gly Tyr Val Glu Thr Leu Leu Lys Thr Asp Cys Ala Tyr Lys Cys Phe  
                   115                                  120                                  125  
 Ala Thr Pro Gln Glu Leu Ala Glu Met Arg Ala Val Ala Ser Thr Leu  
                   130                                  135                                  140  
 Gly Tyr Arg Gly Gly Tyr Asp Arg Arg Tyr Arg Tyr Leu Ser Pro Glu  
                   145                                  150                                  155                                  160  
 Glu Val Ala Ser Arg Glu Ala Ala Gly Gln Pro Tyr Thr Ile Arg Leu  
                   165                                  170                                  175  
 Lys Val Pro Leu Ser Gly Glu Cys Val Phe Glu Asp Tyr Ser Lys Gly  
                   180                                  185                                  190  
 Arg Val Val Phe Pro Trp Ala Asp Val Asp Asp Gln Val Leu Val Lys  
                   195                                  200                                  205  
 Ser Asp Gly Phe Pro Thr Tyr His Phe Ala Asn Val Ile Asp Asp His  
                   210                                  215                                  220  
 Leu Met Gly Ile Thr His Val Leu Arg Gly Glu Glu Trp Leu Ser Ser  
                   225                                  230                                  235                                  240  
 Thr Pro Lys His Leu Leu Leu Tyr Glu Ala Phe Gly Trp Glu Pro Pro  
                   245                                  250                                  255  
 Val Phe Leu His Met Pro Leu Leu Leu Asn Pro Asp Gly Thr Lys Leu  
                   260                                  265                                  270  
 Ser Lys Arg Lys Asn Pro Thr Ser Ile Phe Tyr Tyr Arg Asp Ser Gly  
                   275                                  280                                  285  
 Tyr Val Lys Glu Ala Phe Val Asn Phe Leu Thr Leu Met Gly Tyr Ser  
                   290                                  295                                  300  
 Met Glu Gly Asp Glu Glu Val Tyr Ser Leu Glu Arg Ile Ile Glu Thr  
                   305                                  310                                  315                                  320  
 Phe Asn Pro Arg Arg Ile Gly Lys Ser Gly Ala Val Phe Asp Ile Gln  
                   325                                  330                                  335  
 Lys Leu Asp Trp Met Asn Lys His Tyr Leu Asn His Glu Gly Ser Pro  
                   340                                  345                                  350  
 Glu Cys Leu Leu Lys Glu Leu Gln Gly Trp Leu Leu Asn Asp Glu Phe  
                   355                                  360                                  365

Phe Leu Lys Ile Leu Pro Leu Cys Gln Ser Arg Ile Thr Thr Leu Ala  
 370 375 380  
 Glu Phe Ile Asn Leu Thr Ser Phe Phe Phe Ser Gly Leu Leu Glu Tyr  
 385 390 395 400  
 Arg Val Glu Glu Leu Leu Pro Gln Ala Leu Ser Pro Glu Lys Ala Ala  
 405 410 415  
 Ile Leu Leu Tyr Ser Tyr Val Lys Tyr Leu Glu Lys Thr Asp Gln Trp  
 420 425 430  
 Thr Lys Glu Thr Cys Tyr Leu Gly Ser Lys Trp Leu Ala Gln Ala Phe  
 435 440 445  
 Asn Val His His Lys Lys Ala Ile Ile Pro Leu Leu Tyr Val Ala Ile  
 450 455 460  
 Thr Gly Lys Lys Gln Gly Leu Pro Leu Phe Asp Ser Ile Glu Ile Leu  
 465 470 475 480  
 Gly Lys Pro Arg Ala Arg Ala Arg Leu Val Tyr Ala Glu Lys Leu Leu  
 485 490 495  
 Gly Gly Val Pro Lys Lys Leu Ala Ala Thr Val Asp Lys Phe Met Gln  
 500 505 510  
 Arg Glu Asp Phe Glu Glu Ala Thr Phe Asp Leu  
 515 520

<210> 563  
 <211> 179  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 563  
 Leu Met Ala Cys Glu Gln His Glu Gly Cys Tyr Glu Leu Glu Glu Arg  
 1 5 10 15  
 Glu Glu Ile Glu Asp Ile Lys Asp Ser Asp Thr Lys Trp Val Ser Ile  
 20 25 30  
 Thr Gln Ala Ala Lys Leu His Asn Val Thr Arg Gln Ala Ile Tyr Val  
 35 40 45  
 Ala Ile Lys Gln Lys Lys Leu Lys Ala Ser Lys Glu Thr Arg Trp Glu  
 50 55 60  
 Ile Asp Ile Lys Asp Leu Glu Glu Tyr Lys Arg Asn Arg Tyr Ser Arg  
 65 70 75 80  
 Lys Lys Ser Leu Tyr Gln Gly Glu Leu Val Phe Asp Asn Gly Lys Gly  
 85 90 95  
 Cys Tyr Ser Ile Asn Gln Val Ala Gln Ile Leu Gly Ile Pro Val Gln  
 100 105 110  
 Lys Val Tyr Tyr Ala Thr Arg Thr Gly Thr Ile Arg Gly Glu Arg Lys  
 115 120 125  
 Gly Ala Ala Trp Val Ile His Val Ser Glu Ile Glu Arg Tyr Lys Asn  
 130 135 140  
 Glu Tyr Leu Ser Lys Gln Ala Ala Lys Lys Leu Lys Gly Ala Glu Pro  
 145 150 155 160  
 Lys Glu His Gln Ala Pro Asn Phe Glu Pro Pro Thr Glu Ile Phe Pro  
 165 170 175  
 Glu Ser Asn

<210> 564  
 <211> 378  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 564  
 Asn Tyr Lys Val Ile Met Ser Ile Ala Ile Ala Arg Glu Gln Tyr Ala  
 1 5 10 15

Ala Ile Leu Asp Met His Pro Lys Pro Ser Ile Ala Met Phe Ser Ser  
 20 25 30  
 Glu Gln Ala Arg Thr Ser Trp Glu Lys Arg Gln Ala His Pro Tyr Leu  
 35 40 45  
 Tyr Arg Leu Leu Glu Ile Ile Trp Gly Val Val Lys Phe Leu Leu Gly  
 50 55 60  
 Leu Ile Phe Phe Ile Pro Leu Gly Leu Phe Trp Val Leu Gln Lys Ile  
 65 70 75 80  
 Cys Gln Asn Phe Ile Leu Leu Gly Ala Gly Gly Trp Ile Phe Arg Pro  
 85 90 95  
 Ile Cys Arg Asp Ser Asn Leu Leu Arg Gln Ala Tyr Ala Ala Arg Leu  
 100 105 110  
 Phe Ser Ala Ser Phe Gln Asp His Val Ser Ser Val Arg Arg Val Cys  
 115 120 125  
 Leu Gln Tyr Asp Glu Val Phe Ile Asp Gly Leu Glu Leu Arg Leu Pro  
 130 135 140  
 Asn Ala Lys Pro Asp Arg Trp Met Leu Ile Ser Asn Gly Asn Ser Asp  
 145 150 155 160  
 Cys Leu Glu Tyr Arg Thr Val Leu Gln Gly Glu Lys Asp Trp Ile Phe  
 165 170 175  
 Arg Ile Ala Glu Ser Gln Ser Asn Ile Leu Ile Phe Asn Tyr Pro  
 180 185 190  
 Gly Val Met Lys Ser Gln Gly Asn Ile Thr Arg Asn Asn Val Val Lys  
 195 200 205  
 Ser Tyr Gln Ala Cys Val Arg Tyr Leu Arg Asp Glu Pro Ala Gly Pro  
 210 215 220  
 Gln Ala Arg Gln Ile Val Ala Tyr Gly Tyr Ser Leu Gly Ala Ser Val  
 225 230 235 240  
 Gln Ala Glu Ala Leu Ser Lys Glu Ile Ala Asp Gly Ser Asp Ser Val  
 245 250 255  
 Arg Trp Phe Val Val Lys Asp Arg Gly Ala Arg Ser Thr Gly Ala Val  
 260 265 270  
 Ala Lys Gln Phe Ile Gly Ser Leu Gly Val Trp Leu Ala Asn Leu Thr  
 275 280 285  
 His Trp Asn Ile Asn Ser Glu Lys Arg Ser Lys Asp Leu His Cys Pro  
 290 295 300  
 Glu Leu Phe Ile Tyr Gly Lys Asp Ser Gln Gly Asn Leu Ile Gly Asp  
 305 310 315 320  
 Gly Leu Phe Lys Lys Glu Thr Cys Phe Ala Ala Pro Phe Leu Asp Pro  
 325 330 335  
 Lys Asn Leu Glu Cys Ser Gly Lys Lys Ile Pro Val Ala Gln Thr  
 340 345 350  
 Gly Leu Arg His Asp His Ile Leu Ser Asp Asp Val Ile Lys Glu Val  
 355 360 365  
 Ala Gly His Ile Gln Arg His Phe Asp Asn  
 370 375

<210> 565

<211> 607

<212> PRT

<213> Chlamydia pneumoniae

<400> 565

Gln Tyr Lys Asn Leu Leu Trp Asp Phe Ser Pro Lys Gly Pro Cys Gly  
 1 5 10 15  
 Ile Lys Phe Met Thr Asn Ser Asp Asn Ala Ser Ala Ala Gly Leu Leu  
 20 25 30  
 Trp Ala His Pro Lys Glu Asp Pro Ala Phe Leu Gly Met Ile Ile Lys  
 35 40 45  
 Glu Phe His Leu Pro Pro Thr Val Ala Gln Ile Phe Ile Ser Arg Gly  
 50 55 60

Phe Gln Thr Ile Gln Glu Ile His Lys Phe Leu Tyr Ser His Leu Ser  
65 70 75 80  
Ser Leu Tyr Asp Pro Gly Leu Phe Leu Asp Met Ser Lys Ala Val Glu  
85 90 95  
Arg Leu Leu Leu Ala Arg Asp Arg Lys Glu His Val Met Ile Tyr Gly  
100 105 110  
Asp Ser Asp Val Asp Gly Met Thr Gly Val Ala Leu Leu Val Glu Phe  
115 120 125  
Leu Arg Asp Ile Asp Val His Val Ser Tyr Phe Phe Leu Gly Ala Ile  
130 135 140  
Leu Lys Gln His Gly Glu Thr Ser Thr Leu Ile Ala Lys Leu Lys Glu  
145 150 155 160  
Glu Gly Ile Thr Leu Leu Ile Thr Val Asp Cys Gly Ile Thr Ala Gly  
165 170 175  
Lys Glu Val Ser Asp Ile Thr Arg Gln Gly Ile Asp Val Ile Ile Thr  
180 185 190  
Asp His His Met Pro Thr Gly Lys Ile Pro His Cys Val Ala Thr Leu  
195 200 205  
Asn Pro Lys Leu Arg Asp His Thr Tyr Pro Asn Arg Glu Leu Thr Gly  
210 215 220  
Val Gly Val Ala Phe Lys Leu Ala Arg Gly Val Leu Asn Ala Leu Ile  
225 230 235 240  
Ser Arg Asn Leu Val Pro Lys Ser Gln Gly Ser Leu Lys Lys Leu Leu  
245 250 255  
Asp Leu Val Thr Leu Gly Thr Ile Thr Asp Val Gly Val Leu Leu Gly  
260 265 270  
Glu Asn Arg Val Met Val Arg Tyr Gly Ile Lys Glu Ile Ala Arg Gly  
275 280 285  
Ala Arg Pro Gly Leu Asn Lys Leu Cys Ala Leu Cys Gly Val Glu Lys  
290 295 300  
Ser Glu Val Thr Ser Thr Asp Ile Val Leu Lys Ile Ala Pro Lys Leu  
305 310 315 320  
Asn Ser Leu Gly Arg Leu Asp Asp Pro Ala Lys Gly Val Glu Leu Leu  
325 330 335  
Leu Thr Gln Asp Asp Glu Arg Val Asp Ala Leu Ile Met Glu Leu Asp  
340 345 350  
Asn Ile Asn Arg Glu Arg Gln Arg Ile Glu Ala Glu Val Phe Gln Asp  
355 360 365  
Val Gln Glu Ile Leu Asn Ser Asn Pro Glu Ile Leu Lys Gln Ala Ala  
370 375 380  
Ile Val Leu Ser Ser Thr Ala Trp His Ala Arg Val Ile Pro Ile Ile  
385 390 395 400  
Ser Ala Arg Leu Ala Lys Thr Tyr Asn Lys Pro Val Val Ile Ile Ala  
405 410 415  
Ile Gln Arg Gly Ile Gly Lys Gly Ser Ala Arg Thr Ile Gly Ser Phe  
420 425 430  
Pro Leu Leu Gly Val Leu Lys Lys Cys Ser Ser Leu Leu Ser Tyr  
435 440 445  
Gly Gly His Asp Phe Ala Ala Gly Val Ile Met Lys Glu Asp Lys Val  
450 455 460  
Glu Asp Phe Lys Lys Lys Phe Val His Leu Val Asn Ser Ser Leu Lys  
465 470 475 480  
Lys Gly Asp Thr Leu Pro His Leu Glu Ile Asp Ala Tyr Ala Asp Phe  
485 490 495  
Asp Ala Ile Asp Tyr Asp Leu Leu Ala Ser Met Glu Leu Phe Glu Pro  
500 505 510  
Phe Gly Lys Gly Asn Leu Met Pro Ile Phe Tyr Ser Lys Val Arg Gln  
515 520 525  
Val Arg Tyr Pro Lys Val Leu Pro Gly Asn His Leu Lys Leu Tyr Leu  
530 535 540

Ser Gln Lys Glu Arg Asn Leu Glu Gly Val Ala Phe Gly Leu Gly Arg  
 545 550 555 560  
 His Ala Asp Ala Leu Lys Ala Ser Trp His Tyr Pro Leu Glu Ile Ala  
 565 570 575  
 Tyr Thr Pro Arg Leu Ser Gln Thr Ser Gly Ser Gly Val Ile His Leu  
 580 585 590  
 Leu Val Arg Asp Phe Arg Ile Ser Ser Glu Pro Arg Phe Ser Asp  
 595 600 605

<210> 566  
 <211> 1405  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 566  
 Ser Gly Ala Met Lys Gln Lys Val Lys Arg Asn Phe Ala Ile Ile Ile  
 1 5 10 15  
 Cys Val Phe Ala Leu Ala Leu Tyr Tyr Val Leu Pro Thr Cys Leu Tyr  
 20 25 30  
 Tyr Ala Lys Pro Leu Asp Lys Lys Ile Asp Gly Asn Glu Ala Glu His  
 35 40 45  
 Ile Ile Lys Ser Phe Thr Lys Gln Ala Gln Gln Val Arg Lys Asp Val  
 50 55 60  
 Ile Pro Arg Val Ser Ala Ile Leu Ser Ser Leu His Leu Arg Gly His  
 65 70 75 80  
 Ile Gln Gln His Pro Ala Ile Pro Asp Ile Val Ser Val Arg Phe Lys  
 85 90 95  
 Arg Gly Glu Asp Ala Glu Asp Phe Ile Gly Asn Leu Val His Gly Glu  
 100 105 110  
 Pro Asn Val Pro Ile Lys Ser Ala Arg Leu His Val Val Gly Tyr Ser  
 115 120 125  
 Arg Glu His Asp Asp His Val Ile Gln Val Ala Ser Ser Ile Asn Thr  
 130 135 140  
 Ser Leu Val Glu Ser Asp Phe Ser Phe Val Ser Tyr Ser Ser Glu Asn  
 145 150 155 160  
 Glu Gln Glu Met Ala Ser Ser Ile Leu Gln Arg Val Tyr Ser Ala Cys  
 165 170 175  
 Thr Phe Pro Lys Gln Lys Asp Cys Ser Cys Ser Tyr Pro Ser Ile Trp  
 180 185 190  
 Glu Thr Ala Pro Lys Glu Gln Leu Leu Gln Tyr Ala Lys Asn Leu Ser  
 195 200 205  
 Ser Gly Phe Glu Val Phe Ser Ser Arg Leu Ser Ala Phe Cys Gln Gln  
 210 215 220  
 Ser Phe Ser Ser Asn Gln Asp Arg Leu Ala Phe Leu Ser Arg Leu Ser  
 225 230 235 240  
 Ser Leu Ser Asn Asp Ala Ala Ile Asp Val Glu Asp Gln Lys Leu Leu  
 245 250 255  
 Lys Ser Val Tyr Glu Thr Leu Ser Gln Thr Ala Cys Ile Arg Ser Leu  
 260 265 270  
 Asp Cys Pro Tyr Ile Glu Gly Leu Arg Leu Asp Cys Ser Glu Ser Ser  
 275 280 285  
 Leu Phe Phe Ser Ser Ile Glu Tyr Cys Pro Lys Glu Arg Lys Ile Phe  
 290 295 300  
 Leu Thr Leu His Ser Asp Leu Leu Ala Gln Arg Thr Ser Leu Ser Lys  
 305 310 315 320  
 Glu Gln Arg Leu Asp Phe Asp Ser Arg Leu Ala Val Glu Lys Gln Lys  
 325 330 335  
 Leu Ser Lys Asn Leu Thr Val Gln Val Glu Asp Tyr Asn Asn Gly Phe  
 340 345 350  
 Ser Phe Gln Trp Met Asp Lys Asp Thr Gln Gly Lys Ile Ile Leu Gln  
 355 360 365

Gly Glu Arg Leu Leu Gln Gly Ile Ala Glu His Leu Thr Ala Leu Thr  
 370 375 380  
 Leu His Arg Pro Ala Ala Glu Ser Cys Asp Leu Ile Pro Glu Asn Phe  
 385 390 395 400  
 Pro Val Phe Cys Arg Gln Pro Arg Glu Ser Glu Ala Phe Gly Cys Tyr  
 405 410 415  
 Ile Phe Ser Pro Asn Thr Asp Cys Lys His Phe Ser Lys Gly Ser Val  
 420 425 430  
 Tyr Ile Leu Leu Lys Gly Leu Arg Ser Ile Val Ala Lys Tyr Gln Gln  
 435 440 445  
 Gly Gly Gly Lys Glu Leu Gln Ser Phe Glu Lys Asp Leu Gln Asn Leu  
 450 455 460  
 Tyr Asn Cys Phe Ser His Thr Glu Ala Ile Ser Trp Thr Leu Gly Glu  
 465 470 475 480  
 Asp Gln Val Leu Glu Ile Arg His Pro Leu Gln Gln Phe Leu Asp Val  
 485 490 495  
 Trp Gly Glu Gly Phe Val Ile Gly Lys Glu Gly Cys Ala Phe Leu Glu  
 500 505 510  
 Val Lys Asp Ile Gln Asp Arg Leu Ala Thr Val Asn Gln Ile Glu Lys  
 515 520 525  
 Asn Arg Gln Ser Asp Leu Val Arg Trp His Glu Gln Tyr Arg His Ala  
 530 535 540  
 Lys Cys Ser Met Asp Leu Gln Glu Arg Leu Ser Ala Pro Ile Pro Tyr  
 545 550 555 560  
 Gln Asn Leu Phe Leu Glu Asn Met Lys Leu Asn Met Arg Lys Phe Ser  
 565 570 575  
 Arg Gly Glu Asn Ile Leu Arg Leu Gly Ile Asp Phe Val Gly Gly Arg  
 580 585 590  
 Gln Leu Leu Ser Phe Lys Asp His Gln Gly Lys Gln Leu Thr Asp  
 595 600 605  
 Lys Glu Asp Ile Leu Lys Val Ser Asp Glu Leu Cys Ala Arg Leu Asn  
 610 615 620  
 Lys Leu Gly Val Ser Glu Ile Glu Leu Arg Arg Glu Gly Asp Tyr Ile  
 625 630 635 640  
 His Leu Ser Val Pro Gly Ser Ser Thr Ile Ser Ser Ser Glu Ile Leu  
 645 650 655  
 Gly Thr Ser Lys Met Ser Phe His Val Val Asn Glu Arg Phe Ser Ser  
 660 665 670  
 Tyr Ser Ala Ser Arg Tyr Glu Val Gln Arg Phe Leu Asp Tyr Leu Trp  
 675 680 685  
 Phe Thr Ser Gln Ala Gln Gly Lys Thr Ser Pro Glu Glu Ile Asn Thr  
 690 695 700  
 Phe Ala Ser Ala Leu Phe Asn Glu Glu Val Asp Val Pro Pro Ser Val  
 705 710 715 720  
 His Glu Ala Ile Thr Lys Leu Lys Ser Glu Gly Leu Ala Phe Ser Pro  
 725 730 735  
 Ser Gly Cys Glu Thr Pro Ser Thr Asp Leu Asp Thr Thr Phe Ser Met  
 740 745 750  
 Ile Ala Ile Gly Lys Asp Ala Glu Gln Lys Ala Asn Pro Leu Val Ile  
 755 760 765  
 Val Phe Arg Asn Tyr Ala Leu Asp Gly Ala Ser Leu Lys Asp Ile Arg  
 770 775 780  
 Pro Glu Phe Ala Ala Gly Glu Gly Tyr Val Leu Asn Phe Ser Val Lys  
 785 790 795 800  
 Asp Thr Ser Pro Lys Lys Met Ala Glu Lys Leu Ser Pro Thr Glu Ser  
 805 810 815  
 Phe His Thr Trp Thr Ser Ala Tyr Cys Gln Glu Gly Ile Ser Gly Thr  
 820 825 830  
 Ala Asn Gly Gln Tyr Ser Ala Asn Arg Gly Trp Arg Met Ala Val Val  
 835 840 845

Ile Asp Gly Tyr Met Val Ser Ser Pro Ile Leu Asn Val Pro Leu Lys  
 850 855 860  
 Asn His Ala Ser Val Ser Gly Lys Phe Thr His Arg Glu Val Ser Lys  
 865 870 875 880  
 Leu Ala Ser Asp Leu Lys Ser Gly Ala Met Ser Phe Val Pro Glu Val  
 885 890 895  
 Leu Ser Glu Glu Thr Ile Ser Ser Asp Leu Gly Lys Lys Gln Cys Thr  
 900 905 910  
 Gln Gly Ile Ile Ser Ala Cys Cys Gly Leu Ala Met Leu Ile Val Leu  
 915 920 925  
 Met Ser Val Tyr Tyr Arg Phe Gly Gly Val Ile Ala Ser Gly Ala Val  
 930 935 940  
 Leu Leu Asn Leu Leu Leu Ile Trp Ala Ala Leu Gln Tyr Leu Asp Ala  
 945 950 955 960  
 Pro Leu Thr Leu Ser Gly Leu Ala Gly Ile Val Leu Ala Met Gly Met  
 965 970 975  
 Ala Val Asp Ala Asn Val Leu Val Phe Glu Arg Ile Arg Glu Glu Phe  
 980 985 990  
 Leu Leu Ser Gln Ser Leu Lys Lys Ser Val Glu Lys Gly Tyr Thr Lys  
 995 1000 1005  
 Ala Phe Gly Ala Ile Phe Asp Ser Asn Leu Thr Thr Val Leu Ala Ser  
 1010 1015 1020  
 Ala Leu Leu Phe Phe Leu Asp Thr Gly Pro Ile Lys Gly Phe Ala Leu  
 1025 1030 1035 1040  
 Thr Leu Ile Leu Gly Ile Phe Ser Ser Met Phe Thr Ala Leu Phe Met  
 1045 1050 1055  
 Thr Lys Phe Phe Phe Met Leu Trp Met Asn Lys Thr Gln His Thr Gln  
 1060 1065 1070  
 Leu His Met Met Asn Lys Phe Val Gly Ile Lys His Asp Phe Leu Arg  
 1075 1080 1085  
 Gly Cys Lys Lys Leu Trp Ala Val Ser Gly Ser Val Phe Leu Leu Gly  
 1090 1095 1100  
 Cys Val Ala Leu Gly Phe Gly Ala Trp Asn Ser Val Leu Gly Met Asp  
 1105 1110 1115 1120  
 Phe Lys Gly Gly Tyr Ala Phe Thr Phe Asn Pro Lys Glu His Gly Ile  
 1125 1130 1135  
 Ser Asp Val Ala Gln Met Arg Gly Lys Val Val His Lys Leu Gln Glu  
 1140 1145 1150  
 Ala Gly Leu Ser Ser Arg Asp Phe Arg Ile Gln Thr Phe Gly Ser Ser  
 1155 1160 1165  
 Glu Lys Ile Lys Ile Tyr Phe Ser Asp Lys Ala Leu Ser Tyr Thr Lys  
 1170 1175 1180  
 Ala Asp Thr Ser Leu Ser Pro Lys Ile Asn Asp His Glu Leu Ala Leu  
 1185 1190 1195 1200  
 Ala Val Gly Leu Leu Ser Glu Thr Gly Leu Asp Phe Ser Thr Glu Thr  
 1205 1210 1215  
 Leu Asn Glu Thr Gln Asn Phe Trp Ser Lys Val Ser Ser Lys Leu Ser  
 1220 1225 1230  
 Lys Lys Met Arg Tyr Gln Ala Thr Ile Gly Leu Leu Gly Ala Leu Ala  
 1235 1240 1245  
 Ile Ile Leu Leu Tyr Val Ser Leu Arg Phe Glu Trp Gln Tyr Ala Phe  
 1250 1255 1260  
 Ser Ala Val Cys Ala Leu Ile His Asp Leu Leu Ala Thr Cys Ala Val  
 1265 1270 1275 1280  
 Leu Phe Ile Ala His Phe Phe Leu Lys Lys Ile Gln Ile Asp Leu Gln  
 1285 1290 1295  
 Ala Ile Gly Ala Leu Met Thr Val Leu Gly Tyr Ser Leu Asn Asn Thr  
 1300 1305 1310  
 Leu Ile Ile Phe Asp Arg Ile Arg Glu Asp Arg Gln Ala Asn Leu Phe  
 1315 1320 1325

Thr Pro Met His Val Leu Val Asn Asp Ala Leu Gln Lys Thr Phe Ser  
 1330 1335 1340  
 Arg Thr Val Met Thr Thr Ala Thr Thr Leu Ser Val Leu Leu Met Leu  
 1345 1350 1355 1360  
 Leu Phe Ile Gly Gly Ser Ser Val Phe Asn Phe Ala Phe Ile Met Thr  
 1365 1370 1375  
 Ile Gly Ile Leu Leu Gly Thr Leu Ser Ser Leu Tyr Ile Ala Pro Pro  
 1380 1385 1390  
 Leu Leu Leu Phe Met Val Arg Lys Glu Asn Arg Ser Lys  
 1395 1400 1405

<210> 567  
 <211> 403  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 567

Asn Lys Leu Phe Cys Phe Leu Ile Phe Cys Phe Val Asn Ile Ser Ala  
 1 5 10 15  
 Ile Leu Phe Asp Ser Ser Phe Leu Leu Lys Ile Lys Arg Asn Ser Lys  
 20 25 30  
 Arg Met Leu Arg Ser Met Lys Phe Pro Arg Ile Ser Ile Ser Asp Leu  
 35 40 45  
 Ile Pro Thr Gln Met Val Ile Trp Trp Arg Gly Gly Gly Asn Val His  
 50 55 60  
 Tyr Val Pro Asn Ala Gln Asn Leu Pro Lys Lys Ile Leu Gly Gly Val  
 65 70 75 80  
 Leu Ala Cys Phe Gly Leu Ala Leu Leu Gly Cys Ala Ala Phe Ala Ala  
 85 90 95  
 Gly Val Cys Gln Thr Ile Phe Pro Cys Ile Gly Leu Met Ile Leu Gly  
 100 105 110  
 Leu Val Leu Leu Gly Phe Ala Tyr Leu Gln Tyr Ser Lys Gly Trp Ser  
 115 120 125  
 Arg Phe Glu Arg Pro Leu Phe Arg Glu Thr Lys Val Phe Glu Lys Pro  
 130 135 140  
 Ile Asn Trp Leu Gly Cys Leu Ser Leu Leu Gln Ser Trp Lys Lys Ile  
 145 150 155 160  
 Arg Pro Gly Cys Tyr Tyr His Pro Gly Cys Pro Gln Val Glu Ile Cys  
 165 170 175  
 Glu Gly Ser Gln Glu Ile Val Thr Lys Ile Phe Gln Lys Lys Ser Asp  
 180 185 190  
 Arg Asn Thr Ser Ile Phe Leu Ile Gln Glu Met Asp Gln Ile Ala Leu  
 195 200 205  
 Arg Gln Gly Ile Glu Lys Ser Ser Leu Ser Arg Lys Thr Phe Ala Ile  
 210 215 220  
 Asp Pro Ser Val Val Ser Ser Leu Leu Ser Glu Ile Gln Arg Glu Glu  
 225 230 235 240  
 Gln Gln Tyr Leu Asp Pro Lys Val Ile Ser Trp Ser Ser Glu Asp Gln  
 245 250 255  
 Ala Ser Asp Arg Thr His Pro Lys Ser Ala Ile Tyr Val Asn Ile Ser  
 260 265 270  
 Asp Ala Ala Gln Glu Pro Gln Gly Arg Cys Tyr Ile Asp Ala Tyr Thr  
 275 280 285  
 Lys Ala Phe Phe Thr Val Leu Asp Gln Ile Gly Asp Pro Asn Ile Val  
 290 295 300  
 Lys Lys His Thr Ile Tyr Val Leu Thr Pro Ile Leu Gly Val Pro Asp  
 305 310 315 320  
 Ala Leu Pro Lys Glu Glu Gln Glu Asn Leu Lys Leu Leu Ser Gln Ala  
 325 330 335  
 Ala Phe Leu Tyr Ser Ala Glu Gln Val Ala Lys Arg Met Arg Glu Glu  
 340 345 350



Lys Gln Asp Ser Ile Arg Ile Lys Phe Ile Phe Thr Asp Pro Thr Ser  
 355 360 365  
 Pro Thr Ser Leu Tyr Phe Ser Pro His His Ser Ser Thr Pro His Ser  
 370 375 380  
 Val Thr Pro Ile Ser Leu Ser Gly Phe Val Gly Glu Gln Glu Ser Tyr  
 385 390 395 400  
 Thr Phe Ala

<210> 568  
 <211> 264  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 568  
 Glu Arg Ile Val Thr Tyr Ala Leu Ile Asn Asp Pro Val Asp Leu Ser  
 1 5 10 15  
 Leu Ala Thr Asn Asn Ala Glu Ser Lys Phe Pro Ser Leu Gln Arg Leu  
 20 25 30  
 Pro Asn His Val Ala Ile Ile Met Asp Gly Asn Arg Arg Trp Tyr Lys  
 35 40 45  
 Lys His Arg Glu Glu Cys Gly His Thr His Thr Ser Gly His Tyr Tyr  
 50 55 60  
 Gly Ala Lys Val Leu Pro Asn Ile Leu Asn Ala Val Leu Asp Leu Gly  
 65 70 75 80  
 Ile Lys Val Leu Thr Leu Tyr Thr Phe Ser Thr Glu Asn Phe Gly Arg  
 85 90 95  
 Pro Lys Glu Glu Ile Gln Glu Ile Phe Asn Ile Phe Tyr Thr Gln Leu  
 100 105 110  
 Asp Lys Gln Leu Pro Tyr Leu Met Glu Asn Glu Ile Cys Leu Arg Cys  
 115 120 125  
 Ile Gly Asp Leu Ser Lys Leu Pro Lys Gly Ile Gln Thr Lys Ile Asn  
 130 135 140  
 His Val Ser Arg Met Thr Ala Ser Phe Ser Arg Leu Glu Leu Val Leu  
 145 150 155 160  
 Ala Val Asn Tyr Gly Gly Lys Asp Glu Leu Val Arg Ala Phe Lys Lys  
 165 170 175  
 Leu His Val Asp Ile Leu Asn Lys Lys Ile Ser Ser Asp Asp Leu Ser  
 180 185 190  
 Glu Ser Leu Ile Ser Ser Tyr Leu Asp Thr Ser Gly Leu Thr Asp Pro  
 195 200 205  
 Asp Leu Leu Ile Arg Thr Gly Gly Glu Met Arg Val Ser Asn Phe Leu  
 210 215 220  
 Leu Trp Gln Ile Ala Tyr Thr Glu Leu Tyr Ile Thr Asp Thr Leu Trp  
 225 230 235 240  
 Pro Asp Phe Thr Pro Gln Asp Leu Phe Glu Ala Ile Asn Val Tyr Gln  
 245 250 255  
 Gln Arg Ser Arg Arg Gly Gly Lys  
 260

<210> 569  
 <211> 308  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 569  
 Val Leu Asn Ser Asn Lys Phe Lys Ser Lys Thr Gly Ala Tyr Gly Asp  
 1 5 10 15  
 Leu Phe Gln Arg Val Val Val His Ser Leu Val Leu Thr Phe Leu Val  
 20 25 30

Leu Leu Leu Tyr Ser Ser Leu Phe Pro Leu Thr Ser Phe Ala Leu Gly  
 35 40 45  
 Phe Ile Thr Ala Thr Cys Gly Ala Val Gly Thr Tyr Glu Tyr Ser Ser  
 50 55 60  
 Met Ala Lys Ala Lys Met His Tyr Pro Leu Ser Thr Phe Ser Ala Ile  
 65 70 75 80  
 Gly Ser Phe Leu Phe Leu Ala Leu Ser Phe Leu Ser Ile Arg Trp Gly  
 85 90 95  
 His Ser Leu Pro Gly Phe Phe Asp Ala Leu Pro Trp Thr Leu Leu Ile  
 100 105 110  
 Val Trp Val Val Trp Ser Ile Phe Arg Val Arg Lys Ser Thr Ile Gly  
 115 120 125  
 Ala Leu Gln Leu Ser Gly Val Thr Leu Phe Ser Ile Leu Tyr Val Gly  
 130 135 140  
 Ile Pro Ile Arg Leu Phe Leu His Val Leu Tyr Ser Phe Ile His Thr  
 145 150 155 160  
 Gln Glu Pro Tyr Leu Gly Ile Trp Trp Ala Ser Phe Leu Ile Ala Thr  
 165 170 175  
 Thr Lys Gly Ala Asp Ile Phe Gly Tyr Phe Phe Gly Lys Ala Phe Gly  
 180 185 190  
 Asn Lys Lys Ile Ala Pro Gln Ile Ser Pro Asn Lys Thr Val Val Gly  
 195 200 205  
 Phe Val Ala Gly Cys Leu Gly Ala Thr Leu Ile Ser Phe Ile Phe Phe  
 210 215 220  
 Leu Gln Ile Pro Thr Arg Phe Ala Ser Tyr Phe Pro Met Pro Ala Ile  
 225 230 235 240  
 Leu Ile Pro Leu Gly Leu Ala Leu Gly Ile Thr Gly Phe Phe Gly Asp  
 245 250 255  
 Ile Ile Glu Ser Ile Phe Lys Arg Asp Ala His Leu Lys Asn Ser Asn  
 260 265 270  
 Lys Leu Lys Ala Val Gly Gly Met Leu Asp Thr Leu Asp Ser Leu Leu  
 275 280 285  
 Leu Ser Thr Pro Ile Ala Tyr Leu Phe Leu Leu Ile Thr Gln Ser Lys  
 290 295 300  
 Glu Phe Ile Gly  
 305

<210> 570

<211> 220

<212> PRT

<213> Chlamydia pneumoniae

<400> 570

Arg Val Tyr Trp Met Ile Ile Thr Ile Asp Gly Pro Ser Gly Thr Gly  
 1 5 10 15  
 Lys Ser Thr Thr Ala Lys Ala Leu Ala Asp His Leu His Phe Asn Tyr  
 20 25 30  
 Cys Asn Thr Gly Lys Met Tyr Arg Thr Leu Ala Tyr Ala Arg Leu Gln  
 35 40 45  
 Ser Pro Trp Ala Thr Leu Pro Leu Thr Lys Phe Leu Glu Glu Pro Pro  
 50 55 60  
 Phe Ser Phe Thr Phe Ala Thr Gly Gln Pro Leu Glu Ser Phe Phe Asn  
 65 70 75 80  
 Gly His Leu Leu Thr Ser Glu Leu Thr Thr Gln Glu Val Ala Asn Ala  
 85 90 95  
 Ala Ser Glu Leu Ser Gln Leu Pro Glu Val Arg Ala Phe Met Gln Asp  
 100 105 110  
 Leu Gln Arg Arg Tyr Ala Gln Leu Gly Asn Cys Val Phe Glu Gly Arg  
 115 120 125  
 Asp Met Gly Ser Lys Val Phe Pro Asn Ala Asp Leu Lys Ile Phe Leu  
 130 135 140

Thr Ser Ser Pro Glu Val Arg Ala Gln Arg Arg Leu Lys Asp Leu Pro  
 145 150 155 160  
 Glu Gly Thr Leu Ser Pro Glu Gln Leu Gln Ala Glu Leu Val Lys Arg  
 165 170 175  
 Asp Ala Ala Asp Ala Gln Arg Ala His Asp Pro Leu Val Ile Pro Glu  
 180 185 190  
 Asn Gly Ile Val Ile Asp Ser Ser Asp Leu Thr Ile Arg Gln Val Leu  
 195 200 205  
 Glu Lys Ile Leu Ala Leu Leu Phe Arg Asn Glu Leu  
 210 215 220

<210> 571  
 <211> 234  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 571

Leu Phe Gly Phe Asp Asn Lys Thr Ser Ser Gly Glu Asn Phe Ser Phe  
 1 5 10 15  
 Thr Ile Ser Lys Arg Ala Met Ile Phe Arg Ile Cys Lys Phe Phe Thr  
 20 25 30  
 Trp Val Ala Phe Ser Leu Phe Tyr Lys Leu Lys Val Tyr Gly Val Lys  
 35 40 45  
 Lys Asn Phe Ile Lys Gly Pro Ala Ile Ile Ala Val Asn His Asn Ser  
 50 55 60  
 Phe Leu Asp Pro Ile Ala Leu His Met Cys Val His Glu Cys Ile Tyr  
 65 70 75 80  
 His Leu Ala Arg Ala Ser Leu Phe Asn Ile Pro Trp Leu Trp Lys Gln  
 85 90 95  
 Trp Gly Cys Phe Pro Val Arg Gln Asp Glu Gly Asn Ser Ala Ala Phe  
 100 105 110  
 Lys Ile Ala Ser Arg Leu Phe Asn Lys Arg Lys Lys Leu Val Ile Tyr  
 115 120 125  
 Pro Glu Gly Ala Arg Ser Pro Asp Gly Gln Leu Gln Pro Gly Lys Val  
 130 135 140  
 Gly Ile Gly Met Met Ala Ala Lys Ser Arg Val Pro Ile Ile Pro Val  
 145 150 155 160  
 Tyr Ile Arg Gly Thr Phe Glu Ala Phe Asn Arg His Gln Lys Ile Pro  
 165 170 175  
 His Val Trp Lys Thr Ile Thr Cys Val Phe Gly Thr Pro Met Tyr Phe  
 180 185 190  
 Asp Asp Ile Ile Gln Asn Pro Glu Ile Lys Asn Lys Glu Thr Tyr Gln  
 195 200 205  
 Ile Ile Thr Asn Gln Thr Met Asn Lys Ile Ala Glu Leu Lys Ala Trp  
 210 215 220  
 Tyr Glu Ser Gly Cys Lys Gly Asp Val Pro  
 225 230

<210> 572  
 <211> 582  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 572

Thr Lys Leu Pro Ser Ser Lys His Gly Met Asn Arg Gly Ala Lys Glu  
 1 5 10 15  
 Thr Ser Pro Lys Leu Met Ser Thr Leu Leu Ser Ile Leu Ser Val Ile  
 20 25 30  
 Cys Ser Gln Ala Ile Ala Lys Ala Phe Pro Asn Leu Glu Asp Trp Ala  
 35 40 45



Asp Tyr Leu Tyr Asn Leu Thr His Lys Phe Asn Gly Phe Phe Arg Asp  
 530 535 540  
 Ser His Ile Gln Asp Ser Pro Tyr Ala Lys Ser Arg Leu Phe Leu Cys  
 545 550 555 560  
 Ala Leu Ala Glu Gln Val Leu Ala Thr Gly Met His Leu Leu Gly Leu  
 565 570 575  
 Lys Thr Leu Glu Arg Leu  
 580

<210> 573  
 <211> 477  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 573  
 Thr Phe Glu Lys Val Asn Val Ser Phe Ser Asp Phe Asp Ala Lys Gly  
 1 5 10 15  
 Glu Arg Arg Met Gln Ile Ala Gln Val Phe Gly Cys Gly Arg Leu Asn  
 20 25 30  
 Gly Glu Val Lys Val Ser Gly Ala Lys Asn Ala Ala Thr Lys Leu Leu  
 35 40 45  
 Val Ala Ser Leu Leu Ser Asp Gln Lys Cys Thr Leu Arg Asn Val Pro  
 50 55 60  
 Asp Ile Gly Asp Val Ser Leu Thr Val Glu Leu Cys Lys Ser Leu Gly  
 65 70 75 80  
 Ala His Val Ser Trp Asp Lys Glu Thr Glu Val Leu Glu Ile Tyr Thr  
 85 90 95  
 Pro Glu Ile Gln Cys Thr Arg Val Pro Pro Thr Phe Ser Asn Val Asn  
 100 105 110  
 Arg Ile Pro Ile Leu Leu Leu Gly Ala Leu Leu Gly Arg Cys Pro Glu  
 115 120 125  
 Gly Val Tyr Val Pro Thr Val Gly Gly Asp Ala Ile Gly Glu Arg Thr  
 130 135 140  
 Leu Asn Phe His Phe Glu Gly Leu Lys Gln Leu Gly Val Gln Ile Ser  
 145 150 155 160  
 Ser Asp Ser Ser Gly Tyr Tyr Ala Lys Ala Pro Arg Gly Leu Lys Gly  
 165 170 175  
 Asn Tyr Ile His Leu Pro Tyr Pro Ser Val Gly Ala Thr Glu Asn Leu  
 180 185 190  
 Ile Leu Ala Ala Ile His Ala Lys Gly Arg Thr Val Ile Lys Asn Val  
 195 200 205  
 Ala Leu Glu Ala Glu Ile Leu Asp Leu Val Leu Phe Leu Gln Lys Ala  
 210 215 220  
 Gly Ala Asp Ile Thr Thr Asp Asn Asp Arg Thr Ile Asp Ile Phe Gly  
 225 230 235 240  
 Thr Gly Gly Leu Gly Ser Val Asp His Thr Ile Leu Pro Asp Lys Ile  
 245 250 255  
 Glu Ala Ala Ser Phe Gly Met Ala Ala Val Val Ser Gly Gly Arg Val  
 260 265 270  
 Phe Val Arg Asn Ala Lys Gln Glu Leu Leu Ile Pro Phe Leu Lys Met  
 275 280 285  
 Leu Arg Ser Ile Gly Gly Gly Phe Leu Val Ser Glu Ser Gly Ile Glu  
 290 295 300  
 Phe Phe Gln Glu Arg Pro Leu Val Gly Gly Val Val Leu Glu Thr Asp  
 305 310 315 320  
 Val His Pro Gly Phe Leu Thr Asp Trp Gln Gln Pro Phe Ala Val Leu  
 325 330 335  
 Leu Ser Gln Ala Gln Gly Ser Ser Val Ile His Glu Thr Val His Glu  
 340 345 350  
 Asn Arg Leu Gly Tyr Leu His Gly Leu Gln His Met Gly Ala Glu Cys  
 355 360 365

Gln Leu Phe His Gln Cys Leu Ser Thr Lys Ala Cys Arg Tyr Ala Ile  
 370 375 380  
 Gly Asn Phe Pro His Ser Ala Val Ile His Gly Ala Thr Pro Leu Trp  
 385 390 395 400  
 Ala Ser His Leu Val Ile Pro Asp Leu Arg Ala Gly Phe Ala Tyr Val  
 405 410 415  
 Met Ala Ala Leu Ile Ala Glu Gly Gly Gly Ser Ile Ile Glu Asn Thr  
 420 425 430  
 His Leu Leu Asp Arg Gly Tyr Thr Asn Trp Val Gly Lys Leu Arg Ser  
 435 440 445  
 Leu Gly Ala Lys Ile Gln Ile Phe Asp Met Glu Gln Glu Leu Thr  
 450 455 460  
 Thr Ser Pro Lys Ser Leu Ala Leu Arg Asp Ala Ser Leu  
 465 470 475

<210> 574

<211> 756

<212> PRT

<213> Chlamydia pneumoniae

<400> 574

Ile Met Ala Ala Pro Ile Asn Gln Pro Ser Thr Thr Thr Gln Ile Thr  
 1 5 10 15  
 Gln Thr Gly Gln Thr Thr Thr Thr Thr Thr Val Gly Ser Leu Gly Glu  
 20 25 30  
 His Ser Val Thr Thr Thr Gly Ser Gly Ala Ala Ala Gln Thr Ser Gln  
 35 40 45  
 Thr Val Thr Leu Ile Ala Asp His Glu Met Gln Glu Ile Ala Ser Gln  
 50 55 60  
 Asp Gly Ser Ala Val Ser Phe Ser Ala Glu His Ser Phe Ser Thr Leu  
 65 70 75 80  
 Pro Pro Glu Thr Gly Ser Val Gly Ala Thr Ala Gln Ser Ala Gln Ser  
 85 90 95  
 Ala Gly Leu Phe Ser Leu Ser Gly Arg Thr Gln Arg Arg Asp Ser Glu  
 100 105 110  
 Ile Ser Ser Ser Ser Asp Gly Ser Ser Ile Ser Arg Thr Ser Ser Asn  
 115 120 125  
 Ala Ser Ser Gly Glu Thr Ser Arg Ala Glu Ser Ser Pro Asp Leu Gly  
 130 135 140  
 Asp Leu Asp Ser Leu Ser Gly Ser Glu Arg Ala Glu Gly Ala Glu Gly  
 145 150 155 160  
 Pro Glu Gly Pro Gly Gly Leu Pro Glu Ser Thr Ile Pro His Tyr Asp  
 165 170 175  
 Pro Thr Asp Lys Ala Ser Ile Leu Asn Phe Leu Lys Asn Pro Ala Val  
 180 185 190  
 Gln Gln Lys Met Gln Thr Lys Gly Gly His Phe Val Tyr Val Asp Glu  
 195 200 205  
 Ala Arg Ser Ser Phe Ile Phe Val Arg Asn Gly Asp Trp Ser Thr Ala  
 210 215 220  
 Glu Ser Ile Lys Val Ser Asn Ala Lys Thr Lys Glu Asn Ile Thr Lys  
 225 230 235 240  
 Pro Ala Asp Leu Glu Met Cys Ile Ala Lys Phe Cys Val Gly Tyr Glu  
 245 250 255  
 Thr Ile His Ser Asp Trp Thr Gly Arg Val Lys Pro Thr Met Glu Glu  
 260 265 270  
 Arg Ser Gly Ala Thr Gly Asn Tyr Asn His Leu Met Leu Ser Met Lys  
 275 280 285  
 Phe Lys Thr Ala Val Val Tyr Gly Pro Trp Asn Ala Lys Glu Ser Ser  
 290 295 300  
 Ser Gly Tyr Thr Pro Ser Ala Trp Arg Arg Gly Ala Lys Val Glu Thr  
 305 310 315 320

Gly Pro Ile Trp Asp Asp Val Gly Gly Leu Lys Gly Ile Asn Trp Lys  
 325 330 335  
 Thr Thr Pro Ala Pro Asp Phe Ser Phe Ile Asn Glu Thr Pro Gly Gly  
 340 345 350  
 Gly Ala His Ser Thr Ser His Thr Gly Pro Gly Thr Pro Val Gly Ala  
 355 360 365  
 Thr Val Val Pro Asn Val Asn Val Asn Leu Gly Gly Ile Lys Val Asp  
 370 375 380  
 Leu Gly Gly Ile Asn Leu Gly Gly Ile Thr Thr Asn Val Thr Thr Glu  
 385 390 395 400  
 Glu Gly Gly Gly Thr Asn Ile Thr Ser Thr Lys Ser Thr Ser Thr Asp  
 405 410 415  
 Asp Lys Val Ser Ile Thr Ser Thr Gly Ser Gln Ser Thr Ile Glu Glu  
 420 425 430  
 Asp Thr Ile Gln Phe Asp Asp Pro Gly Gln Gly Glu Asp Asp Asn Ala  
 435 440 445  
 Ile Pro Gly Thr Asn Thr Pro Pro Pro Gly Pro Pro Pro Asn Leu  
 450 455 460  
 Ser Ser Ser Arg Leu Leu Thr Ile Ser Asn Ala Ser Leu Asn Gln Val  
 465 470 475 480  
 Leu Gln Asn Val Arg Gln His Leu Asn Thr Ala Tyr Asp Ser Asn Gly  
 485 490 495  
 Asn Ser Val Ser Asp Leu Asn Gln Asp Leu Gly Gln Val Val Lys Asn  
 500 505 510  
 Ser Glu Asn Gly Val Asn Phe Pro Thr Val Ile Leu Pro Lys Thr Thr  
 515 520 525  
 Gly Asp Thr Asp Pro Ser Gly Gln Ala Thr Gly Gly Val Thr Glu Gly  
 530 535 540  
 Gly Gly His Ile Arg Asn Ile Ile Gln Arg Asn Thr Gln Ser Thr Gly  
 545 550 555 560  
 Gln Ser Glu Gly Ala Thr Pro Thr Pro Gln Pro Thr Ile Ala Lys Ile  
 565 570 575  
 Val Thr Ser Leu Arg Lys Ala Asn Val Ser Ser Ser Ser Val Leu Pro  
 580 585 590  
 Gln Pro Gln Val Ala Thr Thr Ile Thr Pro Gln Ala Arg Thr Ala Ser  
 595 600 605  
 Thr Ser Thr Thr Ser Ile Gly Thr Gly Thr Glu Ser Thr Ser Thr Thr  
 610 615 620  
 Ser Thr Gly Thr Gly Thr Gly Ser Val Ser Thr Gln Ser Thr Gly Val  
 625 630 635 640  
 Gly Thr Pro Thr Thr Thr Arg Ser Thr Gly Thr Ser Ala Thr Thr  
 645 650 655  
 Thr Thr Ser Ser Ala Ser Thr Gln Thr Pro Gln Ala Pro Leu Pro Ser  
 660 665 670  
 Gly Thr Arg His Val Ala Thr Ile Ser Leu Val Arg Asn Ala Ala Gly  
 675 680 685  
 Arg Ser Ile Val Leu Gln Gln Gly Gly Arg Ser Gln Ser Phe Pro Ile  
 690 695 700  
 Pro Pro Ser Gly Thr Gly Thr Gln Asn Met Gly Ala Gln Leu Trp Ala  
 705 710 715 720  
 Ala Ala Ser Gln Val Ala Ser Thr Leu Gly Gln Val Val Asn Gln Ala  
 725 730 735  
 Ala Thr Ala Gly Ser Gln Pro Ser Ser Arg Arg Ser Ser Pro Thr Ser  
 740 745 750  
 Pro Arg Arg Lys  
 755

<210> 575

<211> 241

<212> PRT

<213> Chlamydia pneumoniae

<400> 575

Val	Glu	Asp	Met	Ala	Gly	His	Ser	Lys	Trp	Ala	Asn	Thr	Lys	His	Arg
1				5					10					15	
Lys	Glu	Arg	Ala	Asp	His	Lys	Lys	Gly	Lys	Ile	Phe	Ser	Arg	Ile	Ile
		20						25					30		
Lys	Glu	Leu	Ile	Ser	Ala	Val	Lys	Leu	Gly	Gly	Ala	Asp	Pro	Lys	Ser
	35						40					45			
Asn	Ala	Arg	Leu	Arg	Met	Val	Ile	Gln	Lys	Ala	Lys	Glu	Asn	Asn	Ile
	50					55					60				
Pro	Asn	Glu	Asn	Ile	Glu	Arg	Asn	Leu	Lys	Lys	Ala	Thr	Ser	Ala	Glu
65					70					75					80
Gln	Lys	Asn	Phe	Glu	Glu	Val	Thr	Tyr	Glu	Leu	Tyr	Gly	His	Gly	Gly
			85						90					95	
Val	Gly	Ile	Ile	Val	Glu	Ala	Met	Thr	Asp	Asn	Lys	Asn	Arg	Thr	Ala
			100					105					110		
Ser	Asp	Met	Arg	Ile	Ala	Ile	Asn	Lys	Arg	Gly	Gly	Ser	Leu	Val	Glu
	115						120					125			
Pro	Gly	Ser	Val	Leu	Tyr	Asn	Phe	Ala	Arg	Lys	Gly	Ala	Cys	Thr	Val
	130					135					140				
Ala	Lys	Ser	Ser	Ile	Asp	Glu	Glu	Val	Ile	Phe	Ser	Tyr	Ala	Ile	Glu
145					150					155					160
Ala	Gly	Ala	Glu	Asp	Leu	Asp	Thr	Glu	Asp	Glu	Glu	Asn	Phe	Leu	Val
			165					170						175	
Ile	Cys	Ala	Pro	Ser	Glu	Leu	Ala	Ser	Val	Lys	Glu	Lys	Leu	Ile	Ser
		180						185					190		
Gln	Gly	Ala	Thr	Cys	Ser	Glu	Asp	Arg	Leu	Ile	Tyr	Leu	Pro	Leu	Arg
	195						200					205			
Leu	Val	Asp	Cys	Asp	Glu	Lys	Asp	Gly	Glu	Ala	Asn	Leu	Ala	Leu	Ile
	210					215					220				
Asp	Trp	Leu	Glu	Gln	Ile	Glu	Asp	Val	Asp	Asp	Val	Tyr	His	Asn	Met
225					230					235					240
Ser															

<210> 576  
 <211> 195  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 576

Ser	Ala	Glu	Arg	Gly	Phe	Arg	His	Pro	Ile	Val	Met	Val	Glu	Thr	Val
1				5					10					15	
Leu	His	Asn	Phe	Gln	Arg	Tyr	Leu	Ser	Lys	Tyr	Leu	Tyr	Arg	Val	Phe
		20						25					30		
Arg	Phe	Pro	Cys	Arg	Lys	Lys	Thr	Phe	Leu	Ser	Ser	His	Arg	Val	Leu
	35						40					45			
Ala	Arg	Pro	Ser	Phe	Pro	Val	Asp	Tyr	Cys	Pro	Gly	Lys	Ile	Tyr	Asp
	50					55					60				
Leu	Gln	Glu	Ile	Tyr	Glu	Glu	Leu	Asn	Ala	Gln	Leu	Phe	Gln	Gly	Ala
65					70					75					80
Leu	Arg	Leu	Gln	Ile	Gly	Trp	Phe	Gly	Arg	Lys	Ala	Thr	Arg	Lys	Gly
			85					90						95	
Lys	Ser	Val	Val	Leu	Gly	Leu	Phe	His	Glu	Asn	Glu	Gln	Leu	Ile	Arg
		100						105					110		
Ile	His	Arg	Ser	Leu	Asp	Arg	Gln	Glu	Ile	Pro	Arg	Phe	Phe	Met	Glu
	115						120					125			
Tyr	Leu	Val	Tyr	His	Glu	Met	Val	His	Ser	Val	Val	Pro	Arg	Glu	Tyr
	130					135					140				
Ser	Leu	Ser	Gly	Arg	Ser	Ile	Phe	His	Gly	Lys	Lys	Phe	Lys	Glu	Tyr
145					150					155					160



Glu Gln Arg Phe Pro Leu Tyr Asp Arg Ala Val Ala Trp Glu Lys Ala  
 165 170 175  
 Asn Ala Tyr Leu Leu Arg Gly Tyr Lys Lys Arg Val Gly Gly Gly Tyr  
 180 185 190  
 Gly Arg Ala  
 195

<210> 577  
 <211> 181  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 577  
 Ser Ile Phe Gly Arg Val Trp Arg Ser Phe Met Thr Ala Glu Lys Gln  
 1 5 10 15  
 Asn Thr Gly Ile Leu Gly Leu Glu Ile Arg Tyr Thr Leu Pro Ser Asp  
 20 25 30  
 Ala Thr Tyr Met Leu Lys Trp Leu Asn Asp Pro Lys Ile Leu Arg Gly  
 35 40 45  
 Phe Pro Ile Gln Thr Glu Ala Glu Ile Arg Glu Thr Val Asn Phe Trp  
 50 55 60  
 Val Gly Phe Tyr Arg Tyr His Ser Ser Leu Thr Ala Val Tyr Asn Gly  
 65 70 75 80  
 Asn Val Ala Gly Val Ala Thr Leu Val Leu Asn Pro Tyr Val Lys Val  
 85 90 95  
 Ser His His Ala Leu Ile Ser Ile Ile Val Gly Glu Glu Phe Arg Asn  
 100 105 110  
 Lys Gly Ile Gly Thr Ala Leu Leu Asn Asn Leu Ile His Leu Ala Lys  
 115 120 125  
 Thr Arg Phe Lys Leu Glu Val Leu Tyr Leu Glu Val Tyr Glu Gly Asn  
 130 135 140  
 Pro Ala Leu His Leu Tyr Gln Arg Phe Gly Phe Val Glu Val Gly Arg  
 145 150 155 160  
 Gln Asn Arg Phe Tyr Lys Asp Glu Ile Gly Tyr Leu Ala Lys Thr Thr  
 165 170 175  
 Met Glu Lys Asp Leu  
 180

<210> 578  
 <211> 23  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 578  
 Met Gln Glu Asn Leu Asp Lys Arg Leu Glu Ala Leu Arg Thr Glu Ile  
 1 5 10 15  
 Ser Leu Ala Ala Arg Ser Leu  
 20

<210> 579  
 <211> 90  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 579  
 Glu Ser Pro Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro  
 1 5 10 15  
 Val Asn Ile Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly Pro Met  
 20 25 30  
 Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr Ile Lys Lys His  
 35 40 45

Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn  
 50 55 60  
 Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln Met  
 65 70 75 80  
 Thr Lys Ala Leu Ser Lys His Ile Val Lys  
 85 90

<210> 580  
 <211> 326  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 580  
 Thr Thr Asn Ser Phe Ile Val Leu Ile Ser Ile Ser Leu Ala Thr Leu  
 1 5 10 15  
 Pro Ile Leu Ala Phe Ser Trp Ala Ser Phe Ile Glu Pro Asn Trp Leu  
 20 25 30  
 Arg Thr Thr Ala Ile Pro Trp Arg Leu Pro Lys Lys His Ala His Leu  
 35 40 45  
 His Gly Leu Arg Ile Ala Gln Ile Ser Asp Leu His Phe His Lys Arg  
 50 55 60  
 Val Pro Glu Lys Phe Leu Asn Lys Val Ser Lys Ser Ile Lys Asn Phe  
 65 70 75 80  
 Ser Pro Asp Leu Ile Val Phe Cys Gly Asp Leu Leu Cys Arg Ala Arg  
 85 90 95  
 Leu Glu Asp Lys Glu Arg Leu Glu Thr Phe Leu Asn Thr Leu Glu Ala  
 100 105 110  
 Pro Leu Gly Val Phe Ala Ile Leu Gly Asn His Asp Tyr Ser Ser Tyr  
 115 120 125  
 Ile Ser Arg Asn Thr Lys Gly Glu Ile Thr Cys Ile Pro Glu Glu Lys  
 130 135 140  
 Ser Arg Pro Ile Gln Arg Ala Ile Ile Ala Val Met Gln Gly Leu Phe  
 145 150 155 160  
 Ser Ser Pro Ser Tyr Arg Tyr Asp Pro Asn Leu Thr Pro Gln Glu Pro  
 165 170 175  
 His Pro Asp Leu Leu Lys Leu Leu Lys Asn Thr Pro Leu Thr Leu Leu  
 180 185 190  
 His Asn Thr Thr His Val Ile Pro Asn Thr Leu Asn Ile Val Gly Leu  
 195 200 205  
 Gly Asp Leu Phe Ala Arg Gln Phe His Pro Glu Gln Ala Phe Lys Asn  
 210 215 220  
 Tyr Asp Pro Ser Leu Pro Gly Leu Leu Leu Ser His Asn Pro Asp Gly  
 225 230 235 240  
 Ile Thr Arg Leu Gln Gln Tyr Pro Gly Asp Phe Val Leu Ser Gly His  
 245 250 255  
 Ser His Gly Pro Gln Val Thr Leu Ser Trp Pro Lys Phe Ala Arg Lys  
 260 265 270  
 Phe Phe Glu Arg Leu Ser Gly Leu Glu Asn Pro Tyr Leu Ala Arg Gly  
 275 280 285  
 Tyr Phe Val Thr Lys Glu Gly Lys Gln Leu Tyr Val Asn Arg Gly Leu  
 290 295 300  
 Gly Gly Leu Lys Arg Ile Arg Phe Cys Ser Pro Pro Glu Ile Cys Tyr  
 305 310 315 320  
 Ile Thr Cys Ser Tyr Asp  
 325

<210> 581  
 <211> 228  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 581  
 Lys Glu Phe Ala Ser Ala Pro Leu Leu Lys Ser Ala Thr Ser His Val  
 1 5 10 15  
 Pro Met Ile Lys Ser Ser Leu Ile Leu Ser Gly Gly Gln Gly Thr  
 20 25 30  
 Arg Phe Gly Ser Lys Ile Pro Lys Gln Tyr Leu Pro Leu Asn Gly Thr  
 35 40 45  
 Pro Leu Val Leu His Ser Leu Lys Ile Leu Ser Ser Leu Pro Gln Ile  
 50 55 60  
 Ala Glu Val Ile Val Val Cys Asp Pro Ser Tyr Gln Glu Thr Phe Gln  
 65 70 75 80  
 Glu Tyr Pro Val Ser Phe Ala Ile Pro Gly Glu Arg Arg Gln Asp Ser  
 85 90 95  
 Val Phe Ser Gly Leu Gln Gln Val Ser Tyr Pro Trp Val Ile Ile His  
 100 105 110  
 Asp Gly Ala Arg Pro Phe Ile Tyr Pro Asp Glu Ile His Asp Leu Leu  
 115 120 125  
 Glu Thr Ala Glu Lys Ile Gly Ala Thr Ala Leu Ala Ser Pro Ile Pro  
 130 135 140  
 Tyr Thr Ile Lys Gln Arg Asn Pro Val Arg Thr Leu Asp Arg Asp Asn  
 145 150 155 160  
 Leu Ala Ile Ile His Thr Pro Gln Cys Ile Lys Thr Glu Ile Leu Arg  
 165 170 175  
 Glu Gly Leu Ala Leu Ala Lys Glu Lys Gln Leu Thr Leu Val Asp Asp  
 180 185 190  
 Ile Glu Ala Ala Glu Ile Ile Gly Lys Pro Ser Gln Leu Val Phe Asn  
 195 200 205  
 Lys His Pro Gln Ile Lys Ile Ser Tyr Pro Glu Asp Leu Thr Ile Ala  
 210 215 220  
 Gln Ala Leu Leu  
 225

<210> 582  
 <211> 286  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 582  
 Ala Ser Ser Asn Gln Asn Phe Leu Pro Arg Arg Ser Asn Asp Cys Pro  
 1 5 10 15  
 Ser Pro Pro Met Thr Lys Val Ala Leu Ile Ala Tyr Gln Gly Thr  
 20 25 30  
 Ala Tyr Ser Gly Trp Gln Gln Gln Pro Asn Asp Leu Ser Ile Gln Glu  
 35 40 45  
 Val Ile Glu Ser Ser Leu Lys Lys Ile Thr Lys Thr Arg Thr Pro Leu  
 50 55 60  
 Ile Ala Ser Gly Arg Thr Asp Ala Gly Val His Ala Tyr Gly Gln Val  
 65 70 75 80  
 Ala His Phe Arg Ala Pro Asp His Pro Leu Phe Ala Asn Ala Asn Leu  
 85 90 95  
 Thr Lys Lys Ala Leu Asn Ala Ile Leu Pro Lys Asp Ile Val Ile Arg  
 100 105 110  
 Asp Val Ala Leu Phe Asp Asp Asn Phe His Ala Arg Tyr Leu Ala Ile  
 115 120 125  
 Ala Lys Glu Tyr Arg Tyr Ser Leu Ser Arg Leu Ala Lys Pro Leu Pro  
 130 135 140  
 Trp Gln Arg His Phe Cys Tyr Thr Pro Arg His Pro Phe Ser Thr Glu  
 145 150 155 160  
 Leu Met Gln Glu Gly Ala Asn Leu Leu Ile Gly Thr His Asp Phe Ala  
 165 170 175

Ser Phe Ala Asn His Gly Arg Asp Tyr Asn Ser Thr Val Arg Thr Ile  
180 185 190  
Tyr Thr Leu Asp Ile Val Asp Lys Gly Asp Ser Leu Ser Ile Ile Cys  
195 200 205  
Arg Gly Asn Gly Phe Leu Tyr Lys Met Val Arg Asn Leu Val Gly Ala  
210 215 220  
Leu Leu Asp Val Gly Lys Gly Ala Tyr Pro Pro Glu His Leu Leu Asp  
225 230 235 240  
Ile Leu Glu Gln Lys Asn Arg Arg Glu Gly Pro Ser Ala Ala Pro Ala  
245 250 255  
Tyr Gly Leu Ser Leu His His Val Cys Tyr Ser Ser Pro Tyr Asn Asn  
260 265 270  
Phe Cys Cys Glu Gln Cys Ser Val Ser Thr Ser Asn Glu Gly  
275 280 285

<210> 583

<211> 263

<212> PRT

<213> Chlamydia pneumoniae

<400> 583

Glu Gly Leu Arg Trp Arg Ser Val Lys Ser Phe Leu Arg Gln Cys Trp  
1 5 10 15  
Ile Tyr Ser Met Leu Val Ser Asp Glu Phe Gln Leu Cys Leu Arg Ser  
20 25 30  
Gly Met Tyr Leu Glu Asp Tyr Asp Val Phe Phe Phe Asp Leu Asp Gly  
35 40 45  
Leu Leu Val Asp Thr Glu Pro Cys Phe Tyr Arg Ala Phe Leu Gln Ala  
50 55 60  
Cys Ala Glu Phe Ser Leu Glu Val His Trp Asp Phe Ser Thr Tyr Tyr  
65 70 75 80  
Ser His Thr Thr Leu Gly Thr Glu Ile Phe Ser Lys Lys Phe Ile Glu  
85 90 95  
Gln Tyr Pro Gln Ala Gln Glu Tyr Met Ala Glu Ile Phe Ala Lys Arg  
100 105 110  
Leu Gln Ile Tyr Tyr Lys Ser Leu Glu His Ala Gly Pro Ala Leu Met  
115 120 125  
Pro Gly Val Glu Ala Phe Ile Glu Leu Val Leu Ser Leu Asn Lys Thr  
130 135 140  
Phe Gly Val Val Thr Asn Ser Pro Arg Asp Ala Thr His Thr Leu Arg  
145 150 155 160  
Thr Met Tyr Pro Ile Leu Asn Lys Phe Leu Phe Trp Val Thr Arg Glu  
165 170 175  
Asn Tyr Ala Arg Pro Lys Pro Tyr Gly Asp Ser Tyr Asp Tyr Ala Tyr  
180 185 190  
Arg Thr Phe Ala Arg Glu Gly Met Lys Val Ile Gly Phe Glu Asp Ser  
195 200 205  
Val Lys Gly Leu Arg Ala Leu Ser Lys Ile Pro Ala Thr Leu Val Cys  
210 215 220  
Ile Asn Ser Met Ala Glu Ile Thr Pro Glu Asp Tyr Pro Glu Leu Lys  
225 230 235 240  
Gly Lys Glu Phe Phe Ser Tyr Pro Ser Phe Asp Val Leu Thr Glu His  
245 250 255  
Cys Ser Gln Gln Lys Leu Leu  
260

<210> 584

<211> 291

<212> PRT

<213> Chlamydia pneumoniae

<400> 584

Lys Asn Pro Asn Ala Leu Leu Lys Lys Ile Gln His Arg Leu Val Lys  
 1 5 10 15  
 Met His Asp Lys Asn Lys Val Leu Tyr Leu Gln Ala Asn His Leu Asn  
 20 25 30  
 Gln Lys Arg Lys Arg His Asn Pro Leu Asn Thr Tyr His Ser Ser Asn  
 35 40 45  
 Thr Thr Glu Thr Arg Arg Leu Pro Thr Tyr Tyr Lys Ser Asn Ile Val  
 50 55 60  
 Leu Lys Met Ile Leu Arg Ile Ser Thr Val Ser Leu Leu Thr Ser Cys  
 65 70 75 80  
 Ser Phe Ser Lys Asn Ser Arg Thr Cys Phe Val Thr Pro Glu Arg Ile  
 85 90 95  
 Thr Ser Gln Lys Asp Cys Pro Val Leu Leu His Pro Lys Ser Thr Thr  
 100 105 110  
 Ile Ser Pro Pro Leu Tyr Asp Trp Ile Ser Pro Asn Arg Glu Val Ile  
 115 120 125  
 Thr Ala Tyr Ser Phe Tyr Cys Arg Gly Gln Gly Asn Ser Ile Ile Thr  
 130 135 140  
 Pro Glu Gly Val Leu Tyr Asp Cys Asp Gly Leu His His Ser Ile Thr  
 145 150 155 160  
 Lys Glu Glu Phe Arg Tyr Ile His Pro Arg Leu Ile Glu Val Val Arg  
 165 170 175  
 Leu Leu Gln Gln Asp His Pro Lys Val Ser Ile Ile Glu Ala Phe Cys  
 180 185 190  
 Cys Pro Lys His Phe His Phe Leu Glu Ala Ser Gly Ile Ser Leu Ser  
 195 200 205  
 Gln Leu His Leu Gln Gly Thr Ala Ala Thr Phe Ala Leu Asp Pro Pro  
 210 215 220  
 Leu Pro Met Glu Lys Leu Leu Ala Thr Ile Lys Lys Leu Tyr Lys Lys  
 225 230 235 240  
 Asn Ser Asp Pro Ser Leu Ser Asn Phe Ile Val Thr Glu Ala Thr Leu  
 245 250 255  
 Thr Asn Pro Glu Leu Arg Leu Thr Gln Gln Asp Leu Gly Ser His Thr  
 260 265 270  
 Glu Ile Thr Val Glu Ile Leu Asp Asn Leu Gln Asn Lys Glu Ala Leu  
 275 280 285  
 Ser Ser Ala  
 290

<210> 585

<211> 123

<212> PRT

<213> Chlamydia pneumoniae

<400> 585

Ile Val Leu Ser Phe Phe Leu Gly Lys Thr Lys Val Thr Pro Arg Phe  
 1 5 10 15  
 Leu Met Asn Glu Arg Thr Leu Leu Leu Leu Lys Lys Lys Lys Gly  
 20 25 30  
 Leu Phe Leu Ala Ile Leu Asp Leu Thr Gln Thr Glu Ser Ser Leu Thr  
 35 40 45  
 Thr Pro Glu Leu Glu Lys Val Leu Lys Gln Lys Lys Ile Phe Leu Ser  
 50 55 60  
 Cys Ile Asp Arg Val Asp Leu Gln Ile Lys Glu Phe Arg His Ala Phe  
 65 70 75 80  
 Ser Ser Glu Leu Pro Gln Asp Ile Gln Glu Glu Leu Glu Glu Ile Arg  
 85 90 95  
 Asp Val Ile Ile Arg Ile Leu Asp Thr Asp Lys Arg Asn Tyr Ala Gln  
 100 105 110

Lys Lys Lys Glu Phe Gly Ile Tyr Glu Arg Pro  
 115 120

<210> 586  
 <211> 380  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 586  
 Ile Arg Ile Asn Ala Thr Met His Arg Lys Lys Arg Asn Leu Val Phe  
 1 5 10 15  
 Met Asn Val Pro Asp Ser Lys Asn Leu His Pro Pro Ala Tyr Glu Leu  
 20 25 30  
 Leu Glu Ile Lys Ala Arg Ile Thr Gln Ser Tyr Lys Glu Ala Ser Ala  
 35 40 45  
 Ile Leu Thr Ala Ile Pro Asp Gly Ile Leu Leu Leu Ser Glu Thr Gly  
 50 55 60  
 His Phe Leu Ile Cys Asn Ser Gln Ala Arg Glu Ile Leu Gly Ile Asp  
 65 70 75 80  
 Glu Asn Leu Glu Ile Leu Asn Arg Ser Phe Thr Asp Val Leu Pro Asp  
 85 90 95  
 Thr Cys Leu Gly Phe Ser Ile Gln Glu Ala Leu Glu Ser Leu Lys Val  
 100 105 110  
 Pro Lys Thr Leu Arg Leu Ser Leu Cys Lys Glu Ser Lys Glu Lys Glu  
 115 120 125  
 Val Glu Leu Phe Ile Arg Lys Asn Glu Ile Ser Gly Tyr Leu Phe Ile  
 130 135 140  
 Gln Ile Arg Asp Arg Ser Asp Tyr Lys Gln Leu Glu Asn Ala Ile Glu  
 145 150 155 160  
 Arg Tyr Lys Asn Ile Ala Glu Leu Gly Lys Met Thr Ala Thr Leu Ala  
 165 170 175  
 His Glu Ile Arg Asn Pro Leu Ser Gly Ile Val Gly Phe Ala Ser Ile  
 180 185 190  
 Leu Lys Lys Glu Ile Ser Ser Pro Arg His Gln Arg Met Leu Ser Ser  
 195 200 205  
 Ile Ile Ser Gly Thr Arg Ser Leu Asn Asn Leu Val Ser Ser Met Leu  
 210 215 220  
 Glu Tyr Thr Lys Ser Gln Pro Leu Asn Leu Lys Ile Ile Asn Leu Gln  
 225 230 235 240  
 Asp Phe Phe Ser Ser Leu Ile Pro Leu Leu Ser Val Ser Phe Pro Asn  
 245 250 255  
 Cys Lys Phe Val Arg Glu Gly Ala Gln Pro Leu Phe Arg Ser Ile Asp  
 260 265 270  
 Pro Asp Arg Met Asn Ser Val Val Trp Asn Leu Val Lys Asn Ala Val  
 275 280 285  
 Glu Thr Gly Asn Ser Pro Ile Thr Leu Thr Leu His Thr Ser Gly Asp  
 290 295 300  
 Ile Ser Val Thr Asn Pro Gly Thr Ile Pro Ser Glu Ile Met Asp Lys  
 305 310 315 320  
 Leu Phe Thr Pro Phe Phe Thr Thr Lys Arg Glu Gly Asn Gly Leu Gly  
 325 330 335  
 Leu Ala Glu Ala Gln Lys Ile Ile Arg Leu His Gly Gly Asp Ile Gln  
 340 345 350  
 Leu Lys Thr Ser Asp Ser Ala Val Ser Phe Phe Ile Ile Ile Pro Glu  
 355 360 365  
 Leu Leu Ala Ala Leu Pro Lys Glu Arg Ala Ala Ser  
 370 375 380

<210> 587  
 <211> 672  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 587  
 Ile Ser Leu Arg Arg Lys Ile Leu Arg Pro Asn Asn Phe Ser Ile Gly  
 1 5 10 15  
 Asp Cys Ser Ser Asn Met Ala Thr Pro Ala Gln Lys Ser Pro Thr Phe  
 20 25 30  
 Gln Asp Pro Ser Phe Val Arg Glu Leu Gly Ser Asn His Pro Val Phe  
 35 40 45  
 Ser Pro Leu Thr Leu Glu Glu Arg Gly Glu Met Ala Ile Ala Arg Val  
 50 55 60  
 Gln Gln Cys Gly Trp Asn His Thr Ile Val Lys Val Ser Leu Ile Ile  
 65 70 75 80  
 Leu Ala Leu Leu Thr Ile Leu Gly Gly Gly Leu Leu Val Gly Leu Leu  
 85 90 95  
 Pro Ala Val Pro Met Phe Ile Gly Thr Gly Leu Ile Ala Leu Gly Ala  
 100 105 110  
 Val Ile Phe Ala Leu Ala Leu Ile Leu Cys Leu Tyr Asp Ser Gln Gly  
 115 120 125  
 Leu Pro Glu Glu Leu Pro Pro Val Pro Glu Pro Gln Gln Ile Gln Ile  
 130 135 140  
 Glu Asp Leu Arg Asn Glu Thr Arg Glu Val Leu Glu Gly Thr Leu Leu  
 145 150 155 160  
 Glu Val Leu Leu Lys Asp Arg Asp Ala Lys Asp Pro Ala Val Pro Gln  
 165 170 175  
 Val Val Val Asp Cys Glu Lys Arg Leu Gly Met Leu Asp Arg Lys Leu  
 180 185 190  
 Arg Arg Glu Glu Glu Ile Leu Tyr Arg Ser Thr Ala His Leu Lys Asp  
 195 200 205  
 Glu Glu Arg Tyr Glu Phe Leu Leu Glu Leu Leu Glu Met Arg Ser Leu  
 210 215 220  
 Val Ala Asp Arg Leu Glu Phe Asn Arg Arg Ser Tyr Glu Arg Phe Val  
 225 230 235 240  
 Gln Gly Ile Met Thr Val Arg Ser Glu Glu Gly Glu Lys Glu Ile Ser  
 245 250 255  
 Arg Leu Gln Asp Leu Ile Ser Leu Gln Gln Gln Thr Val Gln Asp Leu  
 260 265 270  
 Arg Ser Arg Ile Asp Asp Glu Gln Lys Arg Cys Trp Thr Ala Leu Gln  
 275 280 285  
 Arg Ile Asn Gln Ser Gln Lys Asp Ile Gln Arg Ala His Asp Arg Glu  
 290 295 300  
 Ala Ser Gln Arg Ala Cys Glu Gly Thr Glu Met Asp Cys Ala Glu Arg  
 305 310 315 320  
 Gln Gln Leu Glu Lys Asp Leu Arg Arg Gln Leu Lys Ser Met Gln Glu  
 325 330 335  
 Trp Ile Glu Met Arg Gly Thr Ile His Gln Gln Glu Lys Ala Trp Arg  
 340 345 350  
 Lys Gln Asn Ala Lys Leu Glu Arg Leu Gln Glu Asp Leu Arg Leu Thr  
 355 360 365  
 Gly Ile Ala Phe Asp Glu Gln Ser Leu Phe Tyr Arg Glu Tyr Lys Glu  
 370 375 380  
 Lys Tyr Leu Ser Gln Lys Leu Asp Met Gln Lys Ile Leu Gln Glu Val  
 385 390 395 400  
 Asn Ala Glu Lys Ser Glu Lys Ala Cys Leu Glu Ser Leu Val His Asp  
 405 410 415  
 Tyr Glu Lys Gln Leu Glu Gln Lys Asp Ala Asn Leu Lys Lys Ala Ala  
 420 425 430

Ala Val Trp Glu Glu Glu Leu Gly Lys Gln Gln Gln Glu Asp Tyr Glu  
 435 440 445  
 Gln Thr Gln Glu Ile Arg Arg Leu Ser Thr Phe Ile Leu Glu Tyr Gln  
 450 455 460  
 Asp Ser Leu Arg Glu Ala Glu Lys Val Glu Lys Asp Phe Gln Glu Leu  
 465 470 475 480  
 Gln Gln Arg Tyr Ser Arg Leu Gln Glu Glu Lys Gln Val Lys Glu Lys  
 485 490 495  
 Ile Leu Glu Glu Ser Met Asn His Phe Ala Asp Leu Phe Glu Lys Ala  
 500 505 510  
 Gln Lys Glu Asn Met Ala Tyr Lys Lys Lys Leu Ala Asp Leu Glu Gly  
 515 520 525  
 Ala Ala Ala Pro Thr Glu Ile Gly Glu Asp Asp Asp Trp Val Leu Thr  
 530 535 540  
 Asp Ser Ala Ser Leu Ser Gln Lys Lys Ile Arg Glu Leu Val Glu Glu  
 545 550 555 560  
 Asn Gln Glu Leu Leu Lys Ala Leu Ala Phe Lys Ser Asn Glu Leu Thr  
 565 570 575  
 Gln Leu Val Ala Asp Ala Val Glu Ala Glu Lys Glu Ile Ser Lys Leu  
 580 585 590  
 Arg Glu His Ile Glu Glu Gln Lys Glu Gly Leu Arg Ala Leu Asp Lys  
 595 600 605  
 Met His Ala Gln Ala Ile Lys Asp Cys Glu Ala Ala Gln Arg Lys Cys  
 610 615 620  
 Cys Asp Leu Glu Ser Leu Leu Ser Pro Val Arg Glu Asp Ala Gly Met  
 625 630 635 640  
 Arg Phe Glu Leu Glu Val Glu Leu Gln Arg Leu Gln Glu Glu Asn Ala  
 645 650 655  
 Gln Leu Arg Ala Glu Val Glu Arg Leu Glu Gln Glu Gln Phe Gln Gly  
 660 665 670

<210> 588  
 <211> 397  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 588  
 Lys Glu Lys Met Asn Pro Ser Arg Gly Glu Asn Met Ala Ile Lys Asn  
 1 5 10 15  
 Ile Leu Val Val Asp Asp Glu Pro Leu Leu Arg Asp Phe Leu Ser Glu  
 20 25 30  
 Leu Leu Thr Ser Gln Gly Phe Ile Pro Asp Thr Ala Glu Asn Leu Arg  
 35 40 45  
 Asn Ala Leu Gln Met Ile Arg Ser Arg Asp Tyr Asp Leu Val Ile Ser  
 50 55 60  
 Asp Met Ser Met Pro Asp Gly Ser Gly Leu Asp Leu Ile Lys Ile Ile  
 65 70 75 80  
 Lys Gln Ser Ser Pro His Thr Pro Val Leu Val Val Thr Ala Tyr Gly  
 85 90 95  
 Ser Ile Glu Asn Ala Val Glu Ala Met His Gln Gly Ala Phe Asn Tyr  
 100 105 110  
 Leu Thr Lys Pro Phe Ser Ser Glu Ala Leu Phe Ala Phe Ile Ser Lys  
 115 120 125  
 Ala Glu Glu Leu Lys Asn Leu Val His Glu Asn Leu Phe Leu His Ser  
 130 135 140  
 Gln Thr Thr Pro Asp Ser His Pro Leu Ile Ala Glu Ser Lys Ala Met  
 145 150 155 160  
 Lys Asp Leu Leu Ala Ile Ala Lys Lys Ala Ala Ser Ser Ser Ala Asn  
 165 170 175  
 Ile Phe Ile His Gly Glu Ser Gly Cys Gly Lys Glu Val Leu Ser Phe  
 180 185 190



Phe Ile His His Asn Ser Pro Arg Ala Asn His Pro Tyr Ile Lys Val  
           195                          200                          205  
 Asn Cys Ala Ala Ile Pro Glu Thr Leu Leu Glu Ser Glu Leu Phe Gly  
           210                          215                          220  
 His Glu Lys Gly Ala Phe Thr Gly Ala Thr Thr Lys Lys Ala Gly Arg  
           225                          230                          235                          240  
 Phe Glu Leu Ala His Lys Gly Thr Leu Leu Leu Asp Glu Ile Thr Glu  
                           245                          250                          255  
 Val Pro Val Asn Leu Gln Ala Lys Leu Leu Arg Ala Ile Gln Glu Lys  
                           260                          265                          270  
 Glu Ile Glu His Leu Gly Gly Thr Lys Thr Leu Ser Val Asp Val Arg  
           275                          280                          285  
 Ile Leu Ala Thr Ser Asn Arg Lys Leu Lys Glu Ala Ile Asp Asp Lys  
           290                          295                          300  
 Ser Phe Arg Gln Asp Leu Tyr Tyr Arg Leu Asn Val Ile Pro Leu His  
           305                          310                          315                          320  
 Leu Pro Pro Leu Arg Asp Arg Gln Asp Asp Ile Leu Pro Leu Ala Asn  
                           325                          330                          335  
 Tyr Phe Leu Asn Lys Phe Cys Arg Met Asn Asn Thr Pro Leu Lys Thr  
                           340                          345                          350  
 Leu Ser Pro Lys Ala Gln Glu Leu Leu Leu Asn Tyr Pro Trp Pro Gly  
                           355                          360                          365  
 Asn Ile Arg Glu Leu Ser Asn Val Leu Glu Arg Val Val Ile Leu Glu  
           370                          375                          380  
 Asn Thr Ser Leu Leu Thr Glu Asp Met Leu Ala Leu Ala  
           385                          390                          395

<210> 589

<211> 249

<212> PRT

<213> Chlamydia pneumoniae

<400> 589

Ser Tyr Gly Glu Leu Phe Ile Leu Ser Thr Leu Leu Lys His His Val  
   1                          5                          10                          15  
 Thr Leu Gly Asp Lys Met Arg Pro His Arg Lys His Val Ser Ser Lys  
           20                          25                          30  
 Ser Leu Ala Leu Lys Gln Ser Ala Ser Thr His Val Glu Ile Thr Thr  
           35                          40                          45  
 Lys Ala Phe Arg Leu Ser Met Pro Leu Lys Gln Leu Ile Leu Glu Lys  
           50                          55                          60  
 Ser Asp His Leu Pro Pro Met Glu Thr Ile Arg Val Val Leu Thr Ser  
           65                          70                          75                          80  
 His Lys Asp Lys Leu Gly Thr Glu Val His Val Val Ala Ser His Gly  
                           85                          90                          95  
 Lys Glu Ile Leu Gln Thr Lys Val His Asn Ala Asn Pro Tyr Thr Ala  
                           100                          105                          110  
 Val Ile Asn Ala Phe Lys Lys Ile Arg Thr Met Ala Asn Lys His Ser  
           115                          120                          125  
 Asn Lys Arg Lys Asp Arg Thr Lys His Asp Leu Gly Leu Ala Ala Lys  
           130                          135                          140  
 Glu Glu Arg Ile Ala Ile Gln Glu Glu Gln Glu Asp Arg Leu Ser Asn  
           145                          150                          155                          160  
 Glu Trp Leu Pro Val Glu Gly Leu Asp Ala Trp Asp Ser Leu Lys Thr  
                           165                          170                          175  
 Leu Gly Tyr Val Pro Ala Ser Ala Lys Lys Lys Ile Ser Lys Lys Lys  
                           180                          185                          190  
 Met Ser Ile Arg Met Leu Ser Gln Asp Glu Ala Ile Arg Gln Leu Glu  
           195                          200                          205  
 Ser Ala Ala Glu Asn Phe Leu Ile Phe Leu Asn Glu Gln Glu His Lys  
           210                          215                          220

Ile Gln Cys Ile Tyr Lys Lys His Asp Gly Asn Tyr Val Leu Ile Glu  
 225 230 235 240  
 Pro Ser Leu Lys Pro Gly Phe Cys Ile  
 245

<210> 590  
 <211> 198  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 590  
 Thr Ser Lys Ser Ile Lys Ser Asn Ala Phe Ile Lys Asn Met Thr Ala  
 1 5 10 15  
 Thr Met Ser Leu Leu Asn Leu Pro Ser Ser Gln Asp Ser Ala Ser Glu  
 20 25 30  
 Asp Ser Thr Ser Gln Ser Gln Ile Phe Asp Pro Ile Arg Asn Arg Glu  
 35 40 45  
 Leu Val Ser Thr Pro Glu Glu Lys Val Arg Gln Arg Leu Leu Ser Phe  
 50 55 60  
 Leu Met His Lys Leu Asn Tyr Pro Lys Lys Leu Ile Ile Ile Glu Lys  
 65 70 75 80  
 Glu Leu Lys Thr Leu Phe Pro Leu Leu Met Arg Lys Gly Thr Leu Ile  
 85 90 95  
 Pro Lys Arg Arg Pro Asp Ile Leu Ile Ile Thr Pro Pro Thr Tyr Thr  
 100 105 110  
 Asp Ala Gln Gly Asn Thr His Asn Leu Gly Asp Pro Lys Pro Leu Leu  
 115 120 125  
 Leu Ile Glu Cys Lys Ala Leu Ala Val Asn Gln Asn Ala Leu Lys Gln  
 130 135 140  
 Leu Leu Ser Tyr Asn Tyr Ser Ile Gly Ala Thr Cys Ile Ala Met Ala  
 145 150 155 160  
 Gly Lys His Ser Gln Val Ser Ala Leu Phe Asn Pro Lys Thr Gln Thr  
 165 170 175  
 Leu Asp Phe Tyr Pro Gly Leu Pro Glu Tyr Ser Gln Leu Leu Asn Tyr  
 180 185 190  
 Phe Ile Ser Leu Asn Leu  
 195

<210> 591  
 <211> 254  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 591  
 Ser Ser Met Gln Ile Cys Val Thr Gly Val Val Leu Arg Ser Arg Pro  
 1 5 10 15  
 Leu Gly Lys Asn His Thr Leu Thr Thr Leu Phe Thr Pro Glu Gly Leu  
 20 25 30  
 Phe Thr Phe Phe Ala Lys Gln Gly Gln Thr Leu Gln Cys Asp Tyr Arg  
 35 40 45  
 Glu Thr Leu Val Pro Ile Ser Leu Gly Lys Tyr Thr Leu His Arg Asn  
 50 55 60  
 Gly Ser Arg Leu Pro Lys Leu Thr His Gly Asp Ile Leu Asn Ala Phe  
 65 70 75 80  
 Glu Ala Ile Lys Gln Thr Tyr Ala Leu Leu Glu Ala Ser Gly Lys Met  
 85 90 95  
 Ile Gln Ala Leu Leu Ala Ser Gln Trp Lys Glu Lys Pro Ser His Lys  
 100 105 110  
 Leu Phe Ser Leu Phe Leu Asn Phe Leu His Arg Ile Pro Glu Ser Ser  
 115 120 125

Asn Pro Glu Phe Phe Ala Ala Ile Phe Val Leu Lys Leu Leu Gln Tyr  
 130 135 140  
 Glu Gly Ile Leu Asp Leu Thr Pro Ala Cys Ser Leu Cys Lys Ala Ser  
 145 150 155 160  
 Leu Pro Tyr Ala Cys Tyr Arg Tyr Gln Gly His Lys Leu Cys Lys Lys  
 165 170 175  
 His Gln His Lys Gln Ala Ile Ser Ile Glu Lys Glu Glu Glu Gln Ile  
 180 185 190  
 Leu Gln Ala Ile Ile His Ala Lys Gln Phe Ser Glu Leu Leu Ala Ile  
 195 200 205  
 Ala Glu Phe Pro Ile Ala Ile Ala Glu Lys Ile Phe Tyr Leu Phe Asp  
 210 215 220  
 Ser Leu Gln Glu Glu Lys Lys Ser Glu Arg Asn Ser Ser Glu Asp Pro  
 225 230 235 240  
 Tyr His Glu Ile Leu Arg Leu Ser Lys Val Val His Pro Tyr  
 245 250

<210> 592  
 <211> 207  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 592  
 Leu Phe Leu Tyr Gly Asp His Asn Leu Gly Phe Ala Cys Arg Tyr Leu  
 1 5 10 15  
 Phe Phe Phe Ile Val Leu Phe Ala Ser Gly Ser Phe Gly Asn Gln Leu  
 20 25 30  
 Leu Ser Val Pro Cys Trp Leu Ser Glu Glu Glu Ser Phe Tyr Thr His  
 35 40 45  
 Arg Phe Asp Phe Ser Lys Ser Tyr Pro Asp Met Glu Asn Met Glu Ile  
 50 55 60  
 Gln Ala Gln Arg Lys Lys Arg Val Glu Phe Asn Leu Thr Gly Glu Phe  
 65 70 75 80  
 Pro Lys Leu Glu Thr Leu Asn Tyr Gln Gly Ser Phe Gly His Leu Arg  
 85 90 95  
 Ala Lys Cys Arg Gly Val Tyr Pro Val Leu Tyr Ala Leu Asn Phe Ser  
 100 105 110  
 Cys Ser Ser Cys Lys Met Asp Met Asp Phe Arg Gly Lys Trp Asn Arg  
 115 120 125  
 Ser Ser Thr Ile Thr Ile Ser Asn Gln Lys Glu Ser Ile Asn Leu Lys  
 130 135 140  
 Leu Pro Lys Asp Val Gly Val Ile Val Asn Thr Lys Thr Ser Leu Lys  
 145 150 155 160  
 Gly Asn Val Cys Pro Gly Ser Thr Phe Ile Lys Gln Gly Trp Gly Val  
 165 170 175  
 Trp Asn Lys Ile Tyr His Asn Asp Leu Val Gly Phe Ser Glu Val Thr  
 180 185 190  
 Leu Ile Phe Asn Val Ser Ser Glu Gly Gly Thr Ile Thr Phe Ser  
 195 200 205

<210> 593  
 <211> 219  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 593  
 Ser Leu Ile Met Arg Cys Thr Ala Tyr Cys Thr Ala Ser Ala Tyr Asn  
 1 5 10 15  
 Leu His Val Leu Phe His Leu Leu Lys Pro Arg Tyr Pro Thr Ile Leu  
 20 25 30

Ser Arg Glu Tyr Val Leu Ala Asn Leu Asp Ser Thr Gln Ala Ser Asn  
           35                          40                          45  
 Gln Leu Ala Ile Phe Phe Pro Phe Gly Val Ala Val Phe Trp Gly Trp  
           50                          55                          60  
 Glu Glu Ser Glu Glu Ile Lys Leu Leu Gln Thr Ile Val Thr Ala Ser  
 65                          70                          75                          80  
 Pro Glu Ile Leu Pro Gln Pro Glu Ile Asp Cys Tyr Asn Phe His Tyr  
                           85                          90                          95  
 Gly Asp Lys Leu Gln Ile Arg Arg Asp Arg Leu Thr Leu Ala Asp Thr  
                           100                          105                          110  
 Thr Leu Asn Thr Lys Leu Ala Ile Ala Phe Gly Leu Ala Gln Ser Val  
                           115                          120                          125  
 Lys Leu Thr Thr Phe Glu Thr Thr Ile Tyr Lys Thr Ile Glu Asp Ser  
                           130                          135                          140  
 Lys Arg Leu Pro Gln Asp Leu Ala Thr Lys Gly Lys Ile Ser Met Ser  
 145                          150                          155                          160  
 Arg Lys Ala Ile Ala Lys Lys Ile Gly Lys Leu Phe Leu Asp Lys Ala  
                           165                          170                          175  
 Ser Val Asn Leu His Ser Asp Ile Leu Asp Glu Pro Asp Phe Phe Trp  
                           180                          185                          190  
 Asp His Pro Glu Thr Gln Ala Ile Tyr Arg Asp Val Leu Ser Cys Leu  
                           195                          200                          205  
 Asp Ile Glu Ala Arg Ile Asn Val Leu Ile Val  
           210                          215

<210> 594  
 <211> 110  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 594  
 Leu Tyr Ser Lys Met Phe Ser Met Ser Phe Lys Arg Phe Leu Gln Gln  
   1                          5                          10                          15  
 Ile Pro Val Arg Ile Cys Leu Leu Ile Ile Tyr Leu Tyr Gln Trp Leu  
           20                          25                          30  
 Ile Ser Pro Leu Leu Gly Ser Cys Cys Arg Phe Phe Pro Ser Cys Ser  
           35                          40                          45  
 His Tyr Ala Glu Gln Ala Leu Lys Ser His Gly Phe Leu Met Gly Cys  
           50                          55                          60  
 Trp Leu Ser Ile Lys Arg Ile Gly Lys Cys Gly Pro Trp His Pro Gly  
 65                          70                          75                          80  
 Gly Ile Asp Met Val Pro Lys Thr Ala Leu Gln Glu Val Leu Glu Pro  
                           85                          90                          95  
 Tyr Gln Glu Ile Asp Gly Gly Asp Ser Ser His Phe Ser Glu  
                           100                          105                          110

<210> 595  
 <211> 368  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 595  
 Val Leu Gly Ala Lys Cys Met Ala Phe Lys Arg Lys Thr Arg Trp Leu  
   1                          5                          10                          15  
 Trp Gln Val Leu Ile Leu Ser Val Gly Leu Asn Met Leu Phe Leu Leu  
           20                          25                          30  
 Leu Phe Tyr Ser Ala Ile Phe Arg Lys Asp Ile Tyr Lys Leu His Leu  
           35                          40                          45  
 Phe Ser Gly Pro Leu Ile Ala Lys Ser Ser Arg Lys Val Tyr Leu Ser  
           50                          55                          60

Glu Asp Phe Leu Asn Glu Ile Ser Gln Ala Ser Leu Asp Asp Leu Ile  
 65 70 75 80  
 Ser Leu Phe Lys Asp Glu Arg Tyr Met Tyr Gly Arg Pro Ile Lys Leu  
 85 90 95  
 Trp Ala Leu Ser Val Ala Ile Ala Ser His His Ile Asp Ile Thr Pro  
 100 105 110  
 Val Leu Ser Lys Pro Leu Thr Tyr Thr Glu Leu Lys Gly Ser Ser Val  
 115 120 125  
 Arg Trp Leu Leu Pro Asn Ile Asp Leu Lys Asp Phe Pro Val Ile Leu  
 130 135 140  
 Asp Tyr Leu Arg Cys His Lys Tyr Pro Tyr Thr Ser Lys Gly Leu Phe  
 145 150 155 160  
 Leu Leu Ile Glu Lys Met Val Gln Glu Gly Trp Val Asp Glu Asp Cys  
 165 170 175  
 Leu Tyr His Phe Cys Ser Thr Pro Glu Phe Leu Tyr Leu Arg Thr Leu  
 180 185 190  
 Leu Val Gly Ala Asp Val Gln Ala Ser Ser Val Ala Ser Leu Ala Arg  
 195 200 205  
 Met Val Ile Arg Cys Gly Ser Glu Arg Phe Phe His Phe Cys Asn Glu  
 210 215 220  
 Glu Ser Arg Thr Ser Met Ile Ser Ala Thr Gln Arg Gln Lys Val Leu  
 225 230 235 240  
 Lys Ser Tyr Leu Asp Cys Glu Glu Ser Leu Ala Ala Leu Leu Leu Leu  
 245 250 255  
 Val His Asp Ser Asp Val Val Leu His Glu Phe Cys Asp Glu Asp Leu  
 260 265 270  
 Glu Lys Val Ile Arg Leu Met Pro Gln Glu Ser Pro Tyr Ser Gln Asn  
 275 280 285  
 Phe Phe Ser Arg Leu Gln His Ser Pro Arg Arg Glu Leu Ala Cys Met  
 290 295 300  
 Ser Thr Gln Arg Val Glu Ala Pro Arg Val Gln Glu Asp Gln Asp Glu  
 305 310 315 320  
 Glu Tyr Val Val Gln Asp Gly Asp Ser Leu Trp Leu Ile Ala Lys Arg  
 325 330 335  
 Phe Gly Ile Pro Met Asp Lys Ile Ile Gln Lys Asn Gly Leu Asn His  
 340 345 350  
 His Arg Leu Phe Pro Gly Lys Val Leu Lys Leu Pro Ala Lys Gln Ser  
 355 360 365

<210> 596  
 <211> 814  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 596  
 Asn Thr Cys His Tyr Thr Gln Val Ile Val Lys Ser Leu Val Lys Tyr  
 1 5 10 15  
 Ser Leu Arg Leu Ser Ser Met Arg Ile Pro Ile Thr Leu Leu Gln Thr  
 20 25 30  
 Tyr Phe Ser Glu Pro Leu Ser Thr Lys Glu Ile Leu Glu Ala Cys Asp  
 35 40 45  
 His Ile Gly Ile Glu Ala Glu Ile Glu Asn Thr Thr Leu Tyr Ser Phe  
 50 55 60  
 Ala Ser Val Ile Thr Ala Lys Ile Leu His Thr Ile Pro His Pro Asn  
 65 70 75 80  
 Ala Asp Lys Leu Arg Val Ala Thr Leu Thr Asp Gly Glu Lys Glu His  
 85 90 95  
 Gln Val Val Cys Gly Ala Pro Asn Cys Glu Ala Gly Leu Ile Val Ala  
 100 105 110  
 Leu Ala Leu Pro Gly Ala Lys Leu Phe Asp Ser Glu Gly Gln Ala Tyr  
 115 120 125

Thr	Ile	Lys	Lys	Ser	Lys	Leu	Arg	Gly	Val	Glu	Ser	Gln	Gly	Met	Cys
130						135				140					
Cys	Gly	Ala	Asp	Glu	Leu	Gly	Leu	Asp	Glu	Leu	Gln	Ile	Gln	Glu	Arg
145					150				155						160
Ala	Leu	Leu	Glu	Leu	Pro	Glu	Ala	Thr	Pro	Leu	Gly	Glu	Asp	Leu	Ala
				165					170					175	
Thr	Val	Leu	Gly	Asn	Thr	Ser	Leu	Glu	Ile	Ser	Leu	Thr	Pro	Asn	Leu
			180					185					190		
Gly	His	Cys	Ala	Ser	Phe	Leu	Gly	Leu	Ala	Arg	Glu	Ile	Cys	His	Val
	195					200						205			
Thr	Gln	Ala	Asn	Leu	Val	Ile	Pro	Lys	Glu	Phe	Ser	Phe	Glu	Asn	Leu
210						215						220			
Pro	Thr	Thr	Ala	Leu	Asp	Met	Gly	Asn	Asp	Pro	Asp	Ile	Cys	Pro	Phe
225					230					235					240
Phe	Ser	Tyr	Val	Val	Ile	Thr	Gly	Ile	Ser	Ala	Gln	Pro	Ser	Pro	Ile
			245						250					255	
Lys	Leu	Gln	Glu	Ser	Leu	Gln	Ala	Leu	Lys	Gln	Lys	Pro	Ile	Asn	Ala
			260					265					270		
Ile	Val	Asp	Ile	Thr	Asn	Tyr	Ile	Met	Leu	Ser	Leu	Gly	Gln	Pro	Leu
	275						280					285			
His	Ala	Tyr	Asp	Ala	Ser	His	Val	Ala	Leu	Asp	Ser	Leu	Arg	Val	Glu
	290					295					300				
Lys	Leu	Ser	Thr	Pro	Glu	Ser	Leu	Thr	Leu	Leu	Asn	Gly	Glu	Thr	Val
305					310					315					320
Leu	Leu	Pro	Ser	Gly	Val	Pro	Val	Val	Arg	Asp	Asp	His	Ser	Leu	Leu
				325					330					335	
Gly	Leu	Gly	Gly	Val	Met	Gly	Ala	Lys	Ala	Pro	Ser	Phe	Gln	Glu	Thr
			340					345					350		
Thr	Thr	Thr	Thr	Val	Ile	Lys	Ala	Ala	Tyr	Phe	Leu	Pro	Glu	Ala	Leu
			355				360					365			
Arg	Ala	Ser	Gln	Lys	Leu	Leu	Pro	Ile	Pro	Ser	Glu	Ser	Ala	Tyr	Arg
	370					375					380				
Phe	Thr	Arg	Gly	Ile	Asp	Pro	Gln	Asn	Val	Val	Pro	Ala	Leu	Gln	Ala
385					390					395					400
Ala	Ile	His	Tyr	Ile	Leu	Glu	Ile	Phe	Pro	Glu	Ala	Thr	Ile	Ser	Pro
			405						410				415		
Ile	Tyr	Ser	Ser	Gly	Glu	Ile	Cys	Arg	Glu	Leu	Lys	Glu	Val	Ala	Leu
			420					425					430		
Arg	Pro	Lys	Thr	Leu	Gln	Arg	Ile	Leu	Gly	Lys	Ser	Phe	Ser	Ile	Glu
		435					440					445			
Ile	Leu	Ser	Gln	Lys	Leu	Gln	Ser	Leu	Gly	Phe	Ser	Thr	Thr	Pro	Gln
	450					455					460				
Glu	Thr	Ser	Leu	Leu	Val	Lys	Val	Pro	Ser	Tyr	Arg	His	Asp	Ile	Asn
465					470					475					480
Glu	Glu	Ile	Asp	Leu	Val	Glu	Glu	Ile	Cys	Arg	Thr	Glu	Ser	Trp	Asn
			485						490					495	
Ile	Glu	Thr	Gln	Asn	Pro	Val	Ser	Cys	Tyr	Thr	Pro	Ile	Tyr	Lys	Leu
			500					505					510		
Lys	Arg	Glu	Thr	Ala	Gly	Phe	Leu	Ala	Asn	Ala	Gly	Leu	Gln	Glu	Phe
		515					520					525			
Phe	Thr	Pro	Asp	Leu	Leu	Asp	Pro	Glu	Thr	Val	Ala	Leu	Thr	Arg	Lys
		530				535					540				
Glu	Lys	Glu	Glu	Ile	Ser	Leu	Gln	Gly	Ser	Lys	His	Thr	Thr	Val	Leu
545					550					555					560
Arg	Ser	Ser	Leu	Leu	Pro	Gly	Leu	Leu	Lys	Ser	Ala	Ala	Thr	Asn	Leu
				565					570					575	
Asn	Arg	Gln	Ala	Pro	Ser	Val	Gln	Ala	Phe	Glu	Ile	Gly	Thr	Val	Tyr
			580					585					590		
Ala	Lys	His	Gly	Glu	Gln	Tyr	Gln	Glu	Thr	Gln	Thr	Leu	Ala	Ile	Leu
			595				600						605		

Leu Thr Glu Asp Gly Glu Ser Arg Ser Trp Leu Pro Lys Pro Ser Leu  
 610 615 620  
 Ser Phe Tyr Ser Leu Lys Gly Trp Val Glu Arg Leu Leu Tyr His His  
 625 630 635 640  
 His Leu Ser Ile Asp Ala Leu Thr Leu Glu Ser Ser Ala Leu Cys Glu  
 645 650 655  
 Phe His Pro Tyr Gln Gln Gly Val Leu Arg Ile His Lys Gln Ser Phe  
 660 665 670  
 Ala Thr Leu Gly Gln Val His Pro Glu Leu Ala Lys Lys Ala Gln Ile  
 675 680 685  
 Lys His Pro Val Phe Phe Ala Glu Leu Asn Leu Asp Leu Leu Cys Lys  
 690 695 700  
 Met Leu Lys Lys Thr Thr Lys Leu Tyr Lys Pro Tyr Ala Ile Tyr Pro  
 705 710 715 720  
 Ser Ser Phe Arg Asp Leu Thr Leu Thr Val Pro Glu Asp Ile Pro Ala  
 725 730 735  
 Asn Leu Leu Arg Gln Lys Leu Leu His Glu Gly Ser Lys Trp Leu Glu  
 740 745 750  
 Ser Val Thr Ile Ile Ser Ile Tyr Gln Asp Lys Ser Leu Glu Thr Arg  
 755 760 765  
 Asn Lys Asn Val Ser Leu Arg Leu Val Phe Gln Asp Tyr Glu Arg Thr  
 770 775 780  
 Leu Ser Asn Gln Asp Ile Glu Glu Glu Tyr Cys Arg Leu Val Ala Leu  
 785 790 795 800  
 Leu Asn Glu Leu Leu Thr Asp Thr Lys Gly Thr Ile Asn Ser  
 805 810

<210> 597  
 <211> 328  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 597  
 Arg Asp Tyr Gln Phe Met Lys Gln Leu Leu Phe Cys Val Cys Val Phe  
 1 5 10 15  
 Ala Met Ser Cys Ser Ala Tyr Ala Ser Pro Arg Arg Gln Asp Pro Ser  
 20 25 30  
 Val Met Lys Glu Thr Phe Arg Asn Asn Tyr Gly Ile Ile Val Ser Gly  
 35 40 45  
 Gln Glu Trp Val Lys Arg Gly Ser Asp Gly Thr Ile Thr Lys Val Leu  
 50 55 60  
 Lys Asn Gly Ala Thr Leu His Glu Val Tyr Ser Gly Gly Leu Leu His  
 65 70 75 80  
 Gly Glu Ile Thr Leu Thr Phe Pro His Thr Thr Ala Leu Asp Val Val  
 85 90 95  
 Gln Ile Tyr Asp Gln Gly Arg Leu Val Ser Arg Lys Thr Phe Phe Val  
 100 105 110  
 Asn Gly Leu Pro Ser Gln Glu Glu Leu Phe Asn Glu Asp Gly Thr Phe  
 115 120 125  
 Val Leu Thr Arg Trp Pro Asp Asn Asn Asp Ser Asp Thr Ile Thr Lys  
 130 135 140  
 Pro Tyr Phe Ile Glu Thr Thr Tyr Gln Gly His Val Ile Glu Gly Ser  
 145 150 155 160  
 Tyr Thr Ser Phe Asn Gly Lys Tyr Ser Ser Ser Ile His Asn Gly Glu  
 165 170 175  
 Gly Val Arg Ser Val Phe Ser Ser Asn Asn Ile Leu Leu Ser Glu Glu  
 180 185 190  
 Thr Phe Asn Glu Gly Val Met Val Lys Tyr Thr Thr Phe Tyr Pro Asn  
 195 200 205  
 Arg Asp Pro Glu Ser Ile Thr His Tyr Gln Asn Gly Gln Pro His Gly  
 210 215 220

Leu Arg Leu Thr Tyr Leu Gln Gly Gly Ile Pro Asn Thr Ile Glu Glu  
 225 230 235 240  
 Trp Arg Tyr Gly Phe Gln Asp Gly Thr Thr Ile Val Phe Lys Asn Gly  
 245 250 255  
 Cys Lys Thr Ser Glu Ile Ala Tyr Val Lys Gly Val Lys Glu Gly Leu  
 260 265 270  
 Glu Leu Arg Tyr Asn Glu Gln Glu Ile Val Ala Glu Glu Val Ser Trp  
 275 280 285  
 Arg Asn Asp Phe Leu His Gly Glu Arg Lys Ile Tyr Ala Gly Gly Ile  
 290 295 300  
 Gln Lys His Glu Trp Tyr Tyr Arg Gly Arg Ser Val Ser Lys Ala Lys  
 305 310 315 320  
 Phe Glu Arg Leu Asn Ala Ala Gly  
 325

<210> 598

<211> 176

<212> PRT

<213> Chlamydia pneumoniae

<400> 598

Phe Ala Val Met Ala Asp Asp Thr Leu Ile Pro Lys Leu Met Lys Asn  
 1 5 10 15  
 Ser Leu Ser Gln Ala Cys Ser Glu Gly Leu Leu Ile Ala Lys Tyr Pro  
 20 25 30  
 Pro Leu Gln Val Ile Val His Phe Asp Asn Asn Leu Val Val Lys Thr  
 35 40 45  
 His Leu Ser Val Ala Pro Val Phe Ser Cys Leu Phe Leu Gly Pro Ala  
 50 55 60  
 Ala His Lys Ala Met Gln Glu Ile Val Leu Trp Cys Ser Arg Tyr Ala  
 65 70 75 80  
 Asn Lys Glu His Pro Pro Phe Ser Ser His Phe Ala Lys Asp Leu Ile  
 85 90 95  
 Pro Ser Gln Tyr Leu Glu Ile Leu Asn Cys Val Ala Glu Ile Pro Phe  
 100 105 110  
 Gly Glu Gln Thr Tyr Ala Glu Ile Ala Lys Lys Thr Asp Thr His  
 115 120 125  
 Pro Arg Thr Val Gly Ala Ala Cys Lys Gln Asn Pro Phe Leu Leu Phe  
 130 135 140  
 Phe Pro Cys His Arg Val Val Gly Ser His Gly Glu Arg Asn Tyr Val  
 145 150 155 160  
 Leu Gly Pro Val Ile His Glu Ile Leu Leu Lys Phe Glu Asn Ser Tyr  
 165 170 175

<210> 599

<211> 579

<212> PRT

<213> Chlamydia pneumoniae

<400> 599

Met Gln Lys His Pro Ser Phe Tyr Gln Arg Phe Leu Ser Ala Tyr Tyr  
 1 5 10 15  
 Lys Asn Leu Leu Ala Ser Leu Ser Trp Lys Phe Phe Ile Ser Val Ala  
 20 25 30  
 Leu Ile Gly Ile Tyr Ala Pro Leu Phe Ala Ser Ser Lys Pro Leu Leu  
 35 40 45  
 Val Thr Trp His Gly Glu Ile Phe Phe Pro Leu Leu Arg Tyr Leu Phe  
 50 55 60  
 Phe Pro Gly Tyr Tyr Thr Lys Pro Val Asp Leu Phe Phe Asn Val Leu  
 65 70 75 80



Met Val Thr Phe Pro Phe Phe Ile Leu Ser Phe Lys Leu Thr Arg Gly  
 85 90 95  
 Trp Leu Arg Arg Trp Leu Leu Gly Leu Cys Ile Ile Ser Gln Cys Met  
 100 105 110  
 Ile Phe Ala Trp Ala Tyr Ser Gly Lys Val Gln Asp Pro Ala Leu Ala  
 115 120 125  
 Glu Asn Leu Lys Lys Met Arg Ala Glu Lys Val Arg Glu Asn Ile Ser  
 130 135 140  
 Lys Val Asn Ser Glu Met Val Met Leu Leu Pro Lys Asp Thr Arg Thr  
 145 150 155 160  
 Trp Glu Met Glu Arg Arg Tyr Met Ser Thr Tyr Glu Gln Leu Gly Ile  
 165 170 175  
 Leu Ile Lys Ala Lys Tyr Arg Lys Lys Gln Glu Ala Ser Val Lys Lys  
 180 185 190  
 Tyr Gln Val Ala Phe Glu Glu Lys Arg Gln Ser Pro Met Pro Thr Leu  
 195 200 205  
 Arg His Leu Glu Met Lys Asn Glu Gly Ile Cys Leu Lys Arg Leu Gln  
 210 215 220  
 Gln Arg Val Asp Lys Met Gln Arg Pro Tyr Glu Met Ala Gln Gln Ala  
 225 230 235 240  
 Trp Asn Arg Ala Thr Asp Asn Tyr Arg Pro Phe Leu Met Ala Leu Thr  
 245 250 255  
 Arg Ile Glu His Glu Leu Arg Leu Ala Asp Tyr Asn Asn Trp Gly Gln  
 260 265 270  
 Pro Glu Asp Leu Cys Ile Ala Tyr Ala Asn Val Glu Lys Arg Ala Glu  
 275 280 285  
 Pro Tyr Lys Lys Ser Leu Leu Glu Ile Arg Gln Val Leu Glu Asp Tyr  
 290 295 300  
 Ala Lys Leu Arg Ser Ala Ile Ser Phe Ile Gln Asp Lys Arg Leu Trp  
 305 310 315 320  
 Ile Glu Lys Glu Ser Glu Asp Leu Arg Ile Leu Ile Asn Pro Phe Phe  
 325 330 335  
 Ser Ser Phe His Trp Glu Asp Asp Ala Gly Gly Ser Arg Glu Met Asn  
 340 345 350  
 Lys Tyr Val Pro Trp Trp Gln Leu Ser Arg Val Thr Arg Lys Asp Leu  
 355 360 365  
 Leu Ala Ala Leu Val Phe Gly Ile Arg Ile Ala Leu Val Val Ala Gly  
 370 375 380  
 Ile Gly Ile Thr Ile Ala Leu Ala Ile Gly Ile Met Ile Gly Leu Val  
 385 390 395 400  
 Ser Gly Tyr Phe Gly Gly Thr Val Asp Met Ile Leu Ser Arg Phe Thr  
 405 410 415  
 Glu Ile Trp Glu Thr Met Pro Val Leu Phe Ile Leu Met Leu Val Ile  
 420 425 430  
 Ser Ile Thr Gln Gln Lys Ser Leu Leu Leu Asn Thr Val Leu Leu Gly  
 435 440 445  
 Cys Phe Ser Trp Thr Gly Phe Ser Arg Tyr Val Arg Ile Glu Val Leu  
 450 455 460  
 Lys Gln Arg Asp Arg Gly Tyr Val Leu Ala Ala Thr Asn Leu Gly Tyr  
 465 470 475 480  
 Ser His Tyr Tyr Ile Met Val His Gln Ile Leu Pro Asn Ala Ile Val  
 485 490 495  
 Pro Val Ile Ser Leu Val Pro Phe Ala Met Met Ala Met Ile Ser Cys  
 500 505 510  
 Glu Ala Gly Leu Thr Phe Leu Gly Leu Gly Glu Glu Ser Ser Ala Ser  
 515 520 525  
 Trp Gly Asn Leu Met Arg Glu Gly Val Thr Gly Phe Pro Ala Glu Ser  
 530 535 540  
 Ala Val Leu Trp Pro Pro Ala Ile Ile Leu Thr Met Leu Leu Ile Ala  
 545 550 555 560

Ile Ala Leu Ile Gly Asp Gly Val Arg Asp Ala Leu Asp Pro Arg Leu  
 565 570 575  
 Gln Asp Ser

<210> 600  
 <211> 498  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 600  
 Glu Glu Gly Gly Ser Val Leu Lys Tyr Ile Leu Lys Arg Leu Val Leu  
 1 5 10 15  
 Ile Pro Leu Thr Leu Phe Ala Ile Val Ser Ile Asn Phe Val Ile Leu  
 20 25 30  
 Asn Ala Ala Pro Gly Asp Val Leu Glu Glu Lys Ser Arg Asp Ala Leu  
 35 40 45  
 Gly Glu Ala Gly Lys Ser Asp Lys Met Arg Ser Tyr Lys Gly Pro Asp  
 50 55 60  
 Arg Tyr Leu Gln Phe Arg Glu His Tyr Gly Leu Thr Leu Pro Ile Phe  
 65 70 75 80  
 Phe Asn Thr Arg Pro Lys Ile Thr His Lys Lys Ile Gln Thr Ala Leu  
 85 90 95  
 Gln Glu Leu Ala Asn Ala Asn Asn Thr Thr Pro Ser Ala Lys Asn Ala  
 100 105 110  
 Ala Lys Ser Leu Val Tyr Trp Gly Asp Cys Ala Lys Phe Val Met Pro  
 115 120 125  
 Ala Leu Leu Phe Glu Ala Asp Asp Ala Ser Arg Asp Asp Lys Tyr Arg  
 130 135 140  
 His Ile Ala Ala Asp Leu Phe Ile Arg Gly Gly Val Leu Gln Gly Phe  
 145 150 155 160  
 Val Gly Pro Asn Leu Ser Pro Glu Gln Arg Ala Gln Asn Lys Glu Ile  
 165 170 175  
 Ala Glu Ser Asn Ala Phe Leu Val Arg Gln Leu Asn Glu Glu Asp Leu  
 180 185 190  
 Asp Thr Lys Val Glu Ala Leu Lys Gly Trp Phe Gln Asp His Gly Gly  
 195 200 205  
 Thr Glu Val Phe Cys Tyr Ser Ser Lys Gln Phe Trp Lys Thr Phe Phe  
 210 215 220  
 Leu Glu Thr Arg Phe Ala Arg Tyr Met Ser Arg Val Leu Arg Leu Asp  
 225 230 235 240  
 Phe Gly Thr Leu Arg Asn Asp Ala His Lys Thr Val Ile Ser Glu Val  
 245 250 255  
 Ile Lys Arg Leu Arg Cys Ser Leu Val Leu Ser Ile Leu Pro Met Ile  
 260 265 270  
 Val Gly Phe Val Leu Cys Gln Ile Phe Gly Met Ile Met Ala Leu Lys  
 275 280 285  
 Arg Asn Arg Trp Ile Asp His Ser Leu Asn Phe Ile Phe Leu Ile Leu  
 290 295 300  
 Phe Ser Ile Pro Val Phe Val Ala Val Pro Trp Ile Leu Asp Asn Phe  
 305 310 315 320  
 Val Ile Asn Lys Thr Ile Pro Phe Thr Thr Ile Pro Met Pro Tyr Ser  
 325 330 335  
 Gly Leu Arg Ser Pro Pro Glu Val Phe Asn Glu Leu Ser Thr Leu Gly  
 340 345 350  
 Arg Ile Phe Asp Leu Val Ser His Gly Phe Leu Pro Phe Cys Ala Val  
 355 360 365  
 Ser Tyr Gly Ala Leu Ala Ala Gln Ser Arg Leu Ser Arg Ser Ile Phe  
 370 375 380  
 Leu Glu Val Leu Ser Gln Asp Phe Ile Cys Ala Ala Lys Ala Arg Gly  
 385 390 395 400

Leu Arg Trp Phe Asp Ile Leu Tyr Lys His Val Gly Lys Asn Ala Ala  
 405 410 415  
 Val Ser Ile Val Thr Ser Leu Ala Ser Ser Leu Gly Thr Leu Leu Gly  
 420 425 430  
 Gly Ala Leu Val Val Glu Thr Leu Phe Asn Ile Asp Gly Phe Gly Asn  
 435 440 445  
 Phe Phe Tyr Gln Ala Ile Leu Asn Arg Asp His Asn Val Val Leu Phe  
 450 455 460  
 Ser Val Leu Val Gly Ser Ala Leu Ser Leu Val Gly Tyr Leu Leu Gly  
 465 470 475 480  
 Asp Ile Cys Tyr Val Leu Leu Asp Pro Arg Val Gln Leu Glu Gly Arg  
 485 490 495  
 Arg Ile

<210> 601

<211> 714

<212> PRT

<213> Chlamydia pneumoniae

<400> 601

Lys Arg Arg Glu Ser Gly His Met Tyr Lys Arg Cys Val Leu Asp Lys  
 1 5 10 15  
 Ile Leu Lys Gly Ile Val Ala Gly Ser Leu Ile Leu Leu Tyr Trp Ser  
 20 25 30  
 Ser Asp Leu Leu Glu Arg Asp Ile Lys Ser Ile Lys Gly Asn Val Arg  
 35 40 45  
 Asp Ile Gln Glu Asp Ile Arg Glu Ile Ser Arg Val Val Lys Gln Gln  
 50 55 60  
 Gln Thr Ser Gln Ala Ile Pro Ala Ala Pro Gly Val Met Leu Ala Pro  
 65 70 75 80  
 Lys Leu Val Arg Asp Glu Ala Phe Ala Leu Leu Phe Gly Asp Pro Ser  
 85 90 95  
 Tyr Pro Asn Leu Leu Ser Leu Asp Pro Tyr Lys Gln Gln Thr Leu Pro  
 100 105 110  
 Glu Leu Leu Gly Thr Asn Phe His Pro His Gly Ile Leu Arg Thr Ala  
 115 120 125  
 His Val Gly Lys Pro Glu Asn Leu Ser Pro Phe Asn Gly Phe Asp Tyr  
 130 135 140  
 Val Val Gly Phe Tyr Asp Leu Cys Ile Pro Ser Leu Ala Ser Pro His  
 145 150 155 160  
 Val Gly Lys Tyr Glu Glu Phe Ser Pro Asp Leu Ala Val Lys Ile Glu  
 165 170 175  
 Glu His Leu Val Glu Asp Gly Ser Gly Asp Lys Glu Phe His Ile Tyr  
 180 185 190  
 Leu Arg Pro Asn Val Phe Trp Arg Pro Ile Asp Pro Lys Ala Leu Pro  
 195 200 205  
 Lys His Val Gln Leu Asp Glu Val Phe Gln Arg Pro His Pro Val Thr  
 210 215 220  
 Ala His Asp Ile Lys Phe Phe Tyr Asp Ala Val Met Asn Pro Tyr Val  
 225 230 235 240  
 Ala Thr Met Arg Ala Val Ala Leu Arg Ser Cys Tyr Glu Asp Val Val  
 245 250 255  
 Ser Val Ser Val Glu Asn Asp Leu Lys Leu Val Val Arg Trp Lys Ala  
 260 265 270  
 His Thr Val Ile Asn Glu Glu Gly Lys Glu Glu Arg Lys Val Leu Tyr  
 275 280 285  
 Ser Ala Phe Ser Asn Thr Leu Ser Leu Gln Pro Leu Pro Arg Phe Val  
 290 295 300  
 Tyr Gln Tyr Phe Ala Asn Gly Glu Lys Ile Ile Glu Asp Glu Asn Ile  
 305 310 315 320

Asp Thr Tyr Arg Thr Asn Ser Ile Trp Ala Gln Asn Phe Thr Met His  
 325 330 335  
 Trp Ala Asn Asn Tyr Ile Val Ser Cys Gly Ala Tyr Tyr Phe Ala Gly  
 340 345 350  
 Met Asp Asp Glu Lys Ile Val Phe Ser Arg Asn Pro Asp Phe Tyr Asp  
 355 360 365  
 Pro Leu Ala Ala Leu Ile Asp Lys Arg Phe Val Tyr Phe Lys Glu Ser  
 370 375 380  
 Thr Asp Ser Leu Phe Gln Asp Phe Lys Thr Gly Lys Ile Asp Ile Ser  
 385 390 395 400  
 Tyr Leu Pro Pro Asn Gln Arg Asp Asn Phe Tyr Ser Phe Met Lys Ser  
 405 410 415  
 Ser Ala Tyr Asn Lys Gln Val Ala Lys Gly Gly Ala Val Arg Glu Thr  
 420 425 430  
 Val Ser Ala Asp Arg Ala Tyr Thr Tyr Ile Gly Trp Asn Cys Phe Ser  
 435 440 445  
 Leu Phe Phe Gln Ser Arg Gln Val Arg Cys Ala Met Asn Met Ala Ile  
 450 455 460  
 Asp Arg Glu Arg Ile Ile Glu Gln Cys Leu Asp Gly Gln Gly Tyr Thr  
 465 470 475 480  
 Ile Ser Gly Pro Phe Ala Ser Ser Ser Pro Ser Tyr Asn Lys Gln Ile  
 485 490 495  
 Glu Gly Trp His Tyr Ser Pro Glu Glu Ala Ala Arg Leu Leu Glu Glu  
 500 505 510  
 Glu Gly Trp Ile Asp Thr Asp Gly Asp Gly Ile Arg Glu Lys Val Ile  
 515 520 525  
 Asp Gly Val Ile Val Pro Phe Arg Phe Arg Leu Cys Tyr Tyr Val Lys  
 530 535 540  
 Ser Val Thr Ala His Thr Ile Ala Asp Tyr Val Ala Thr Ala Cys Lys  
 545 550 555 560  
 Glu Ile Gly Ile Glu Cys Ser Leu Leu Gly Leu Asp Met Ala Asp Leu  
 565 570 575  
 Ser Gln Ala Phe Asp Glu Lys Asn Phe Asp Ala Leu Leu Met Gly Trp  
 580 585 590  
 Cys Leu Gly Ile Pro Pro Glu Asp Pro Arg Ala Leu Trp His Ser Glu  
 595 600 605  
 Gly Ala Met Glu Lys Gly Ser Ala Asn Val Val Gly Phe His Asn Glu  
 610 615 620  
 Glu Ala Asp Lys Ile Ile Asp Arg Leu Ser Tyr Glu Tyr Asp Leu Lys  
 625 630 635 640  
 Glu Arg Asn Arg Leu Tyr His Arg Phe His Glu Ile Ile His Glu Glu  
 645 650 655  
 Ala Pro Tyr Ala Phe Leu Phe Ser Arg His Cys Ser Leu Leu Tyr Lys  
 660 665 670  
 Asp Tyr Val Lys Asn Ile Phe Val Pro Thr His Arg Thr Asp Leu Ile  
 675 680 685  
 Pro Glu Ala Gln Asp Glu Thr Val Asn Val Thr Met Val Trp Leu Glu  
 690 695 700  
 Lys Lys Glu Asp Pro Cys Leu Ser Thr Ser  
 705 710

<210> 602  
 <211> 110  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 602  
 His Gly Tyr Met Lys Ile Lys Lys Ser Phe Gln Tyr Ser Leu Cys Gln  
 1 5 10 15  
 Ala Lys Arg Phe Gln Asn Met Leu Pro Asn His Phe Asp Pro Cys Leu  
 20 25 30

Gln Pro Val Asn Leu Gln Leu Lys Gln Asp Arg Leu Ala Tyr Gly Glu  
35 40 45  
Leu Ile Ile Leu Leu Ser Lys Tyr Gln Gln Lys Thr Phe Ser Ser Leu  
50 55 60  
Leu Lys Glu Glu Thr Cys Ser Leu Asn Arg Ala Lys Gln His Leu Leu  
65 70 75 80  
Tyr Lys Ile Leu Arg Asp Phe Asn Thr Met Gln His Leu Arg Ser Leu  
85 90 95  
Gly Leu Asn Gly Trp Gly Glu Ile Pro Met Ser Pro Cys Leu  
100 105 110

<210> 603  
<211> 119  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 603  
-----  
Gln Phe Pro Arg Ile His Ala Asp Asp Ile Ile Asn Ser Met Asp Glu  
1 5 10 15  
Ile Thr Pro Asn Tyr Pro Leu Leu Arg Gln Asp Ser Leu Trp Asn Arg  
20 25 30  
Val Arg Val Ser Trp Arg Ala Asp Leu Ser Val Ser Ser Arg Tyr Glu  
35 40 45  
Ile Ala Ser Ala Ile Ala Ile Leu Gly Leu Leu Val Ala Phe Cys Ala  
50 55 60  
Ser Ala Ala Val Ser Ile Ile Phe Thr Ala Asn Pro Leu Ala Gln Val  
65 70 75 80  
Phe Ile Asp Gly Cys Leu Ala Leu Gly Leu Leu Pro Ile Pro Leu Val  
85 90 95  
Ile Gly Leu Leu Ile Ile Gly Ile Ile Val Leu Leu Tyr Gly Ile Tyr  
100 105 110  
Leu Phe Pro Gln Gln Arg Glu  
115

<210> 604  
<211> 338  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 604  
Asp Ser Gly Phe Met Lys Pro Leu Gly Phe Gln Glu Asn Leu Glu Ala  
1 5 10 15  
Leu Cys Asn Lys Thr Ser Arg Gln Leu Leu Lys Tyr Leu Ile Lys Gln  
20 25 30  
Ile Leu Phe Val Cys Gly Ala Ser Leu Leu Ile Ala Leu Glu Phe Ser  
35 40 45  
Phe Phe Leu Tyr Phe Phe Leu Phe Ser Gly Lys Thr Val Ile Pro Ala  
50 55 60  
Phe Cys Leu Ala Cys Phe Phe Leu Thr Leu Phe Val Cys Leu Val Thr  
65 70 75 80  
Arg Leu Tyr Leu Leu Ser Gly Lys Gly Asp Phe Phe Glu Asp Leu Ala  
85 90 95  
Ser Glu Tyr Leu Gln Gly Ala Val Pro Pro Asn Lys Arg Ser Gln Asn  
100 105 110  
Ile Val Glu Glu Gln Ser His Leu Ala Ala Ala Thr Lys Leu Ser  
115 120 125  
Ile Asn Leu Gln Asn Gln Glu Tyr Ser Leu Leu Ser Glu Ile Phe Lys  
130 135 140  
Phe Leu Pro Lys His Asp Leu Ile Arg Lys Phe Ser Cys Phe Cys Phe  
145 150 155 160

Trp Lys Asp Tyr Phe Leu Phe Arg Glu Cys Leu Leu Gln Lys Ala Ile  
 165 170 175  
 Glu Ala Tyr Ile Lys Val Val Gln Ala Ile Pro Val Asp Leu Ser Ala  
 180 185 190  
 His Val Ser Leu Ala Asp Ala Tyr Val Ala Leu Ser Gly Leu Tyr Ala  
 195 200 205  
 Asp Pro Arg Lys Tyr Pro Glu Phe Asp Ala Asn Tyr Trp Ile Pro Ser  
 210 215 220  
 Gly Arg Tyr Ser Ala Glu Ile Gln Glu Lys Phe Phe Ala Thr Ala Arg  
 225 230 235 240  
 Arg Ala Ile Glu Glu Phe Gln Ile Leu Asn Glu Tyr Ala Pro Gly Asn  
 245 250 255  
 Ala Trp Val His Ala Gln Leu Ala Tyr Ser Tyr His Asp Leu Gln Met  
 260 265 270  
 Pro Met Glu Glu Ile Gln Glu Tyr Glu Ile Val Leu Lys Leu Lys Pro  
 275 280 285  
 Asn Asp Val Glu Thr Met Ser Lys Leu Gly Ile Leu Tyr Phe Gln Gln  
 290 295 300  
 Gly Met Asn Ala Lys Gly Leu Arg Ile Tyr Glu Glu Ile Lys Lys Arg  
 305 310 315 320  
 Asp Tyr Lys Lys Ser Gln Lys Leu Ile Lys Phe Tyr Gly Val Glu Tyr  
 325 330 335  
 Lys Tyr

<210> 605  
 <211> 350  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 605  
 Trp Lys Ile Met Arg Leu Ile Val Leu Met Gln Cys Leu Val Ser Leu  
 1 5 10 15  
 Phe Leu Ala Lys Lys Val Thr Val Thr Thr Pro Ala Tyr Leu Leu Ala  
 20 25 30  
 Asn Phe Gly Gly Pro Arg His Ala Lys Asp Leu Gln Glu Phe Leu Ile  
 35 40 45  
 Ser Leu Leu Thr Asp Arg Asp Val Thr Gly Thr Phe Leu Pro Arg Val  
 50 55 60  
 Leu His Arg His Leu Phe Thr Phe Ile Ala Lys Lys Arg Val Pro Lys  
 65 70 75 80  
 Val Leu Pro Gln Tyr Gln Ser Leu Gln Asn Trp Ser Pro Ile Tyr Phe  
 85 90 95  
 Asp Thr Glu Thr Leu Ala Lys Thr Leu Ser Glu Ile Leu Arg Ala Pro  
 100 105 110  
 Val Ile Pro Phe His Arg Tyr Leu Pro Ser Thr His Glu Lys Thr Leu  
 115 120 125  
 Leu Ala Leu Arg Thr Leu His Thr Arg His Val Ile Gly Ile Pro Leu  
 130 135 140  
 Phe Pro His Phe Thr Tyr Ser Val Thr Gly Ser Ile Val Arg Phe Phe  
 145 150 155 160  
 Met Lys His Val Pro Glu Ile Pro Ile Ser Trp Ile Pro Gln Phe Gly  
 165 170 175  
 Ser Asp Ser Lys Phe Val Ser Leu Ile Thr Cys His Ile Arg Asp Phe  
 180 185 190  
 Leu Gln Lys Leu Gly Ile Leu Glu Lys Glu Cys Cys Phe Leu Phe Ser  
 195 200 205  
 Val His Gly Leu Pro Val Arg Tyr Ile Ser Gln Gly Asp Pro Tyr Ser  
 210 215 220  
 Lys Gln Cys Tyr Glu Ser Phe Ser Ala Ile Thr Thr Asn Phe Lys Gln  
 225 230 235 240

Ser Glu Asn Phe Leu Cys Phe Gln Ser Lys Phe Gly Pro Gly Lys Trp  
245 250 255  
Leu Ser Pro Ser Thr Ala Gln Leu Cys Gln Asn Ile Asp Thr Asp Lys  
260 265 270  
Pro Asn Val Ile Val Val Pro Phe Gly Phe Ile Ser Asp His Leu Glu  
275 280 285  
Thr Leu Tyr Glu Ile Glu Arg Asp Tyr Leu Pro Leu Leu Arg Ser Arg  
290 295 300  
Gly Tyr Arg Ala Leu Arg Ile Pro Ala Ile Tyr Ser Ser Pro Leu Trp  
305 310 315 320  
Val Ser Thr Leu Val Asp Ile Val Lys Glu Asn Ser Thr Val Val Ala  
325 330 335  
Glu Glu Leu Ile Lys Ser Gly Lys Lys His Thr Gly Ile Arg  
340 345 350

<210> 606

<211> 262

<212> PRT

<213> Chlamydia pneumoniae

<400> 606

Cys Lys Lys Arg Gln Asn Ser Glu Ala Gln Leu Asn Val Lys Ile Lys  
1 5 10 15  
Phe Ser Trp Lys Val Asn Phe Leu Ile Cys Leu Leu Ala Val Gly Leu  
20 25 30  
Ile Phe Phe Gly Cys Ser Arg Val Lys Arg Glu Val Leu Val Gly Arg  
35 40 45  
Asp Ala Thr Trp Phe Pro Lys Gln Phe Gly Ile Tyr Thr Ser Asp Thr  
50 55 60  
Asn Ala Phe Leu Asn Asp Leu Val Ser Glu Ile Asn Tyr Lys Glu Asn  
65 70 75 80  
Leu Asn Ile Asn Ile Val Asn Gln Asp Trp Val His Leu Phe Glu Asn  
85 90 95  
Leu Asp Asp Lys Lys Thr Gln Gly Ala Phe Thr Ser Val Leu Pro Thr  
100 105 110  
Leu Glu Met Leu Glu His Tyr Gln Phe Ser Asp Pro Ile Leu Leu Thr  
115 120 125  
Gly Pro Val Leu Val Val Ala Gln Asp Ser Pro Tyr Gln Ser Ile Glu  
130 135 140  
Asp Leu Lys Gly Arg Leu Ile Gly Val Tyr Lys Phe Asp Ser Ser Val  
145 150 155 160  
Leu Val Ala Gln Asn Ile Pro Asp Ala Val Ile Ser Leu Tyr Gln His  
165 170 175  
Val Pro Ile Ala Leu Glu Ala Leu Thr Ser Asn Cys Tyr Asp Ala Leu  
180 185 190  
Leu Ala Pro Val Ile Glu Val Thr Ala Leu Ile Glu Thr Ala Tyr Lys  
195 200 205  
Gly Arg Leu Lys Ile Ile Ser Lys Pro Leu Asn Ala Asp Gly Leu Arg  
210 215 220  
Leu Ala Ile Leu Lys Gly Thr Asn Gly Asp Leu Leu Glu Gly Phe Asn  
225 230 235 240  
Ala Gly Leu Val Lys Thr Arg Arg Ser Gly Lys Tyr Asp Ala Ile Lys  
245 250 255  
Gln Arg Tyr Arg Leu Pro  
260

<210> 607

<211> 196

<212> PRT

<213> Chlamydia pneumoniae

<400> 607

Leu	Arg	Lys	Leu	Cys	Ser	Ser	Arg	Gly	Asp	Val	Arg	Ile	Leu	Ala	Gly
1				5					10					15	
Lys	Tyr	Lys	Gly	Lys	Ser	Leu	Lys	Thr	Phe	Ser	Asn	Pro	His	Ile	Arg
			20					25					30		
Pro	Thr	Ser	Gly	Leu	Val	Lys	Glu	Ala	Phe	Phe	Ser	Ile	Cys	Arg	Glu
		35					40					45			
Asp	Ile	Glu	Gly	Ala	Ala	Phe	Leu	Asp	Leu	Phe	Ala	Gly	Met	Gly	Ala
	50					55					60				
Ile	Gly	Phe	Glu	Ala	Leu	Ser	Arg	Gly	Ala	Ala	Ser	Val	Val	Phe	Val
65					70				75					80	
Asp	Ile	Ser	Ile	Lys	Ala	Ile	Gln	Leu	Ile	His	Thr	Asn	Ser	Ala	Leu
				85					90					95	
Leu	Gly	Glu	Gln	Leu	Pro	Val	Val	Ile	Phe	Arg	Gln	Asp	Ala	Gln	Ser
		100						105					110		
Ala	Ile	Gln	Arg	Leu	Ile	Lys	Gln	Lys	Arg	Ser	Phe	Asp	Leu	Ile	Tyr
		115					120					125			
Ile	Asp	Pro	Pro	Tyr	Glu	Leu	Cys	Asn	Cys	Tyr	Val	Glu	Thr	Leu	Leu
	130					135					140				
Gln	Lys	Ile	Val	Ser	Gly	Asn	Ile	Leu	Asn	Pro	Glu	Gly	Thr	Leu	Phe
145					150					155				160	
Leu	Glu	Asn	Ala	Ser	Asp	Glu	Glu	Ile	Ala	Cys	Glu	Gly	Leu	Thr	Leu
			165						170				175		
Arg	Arg	Arg	Arg	Lys	Leu	Gly	Lys	Thr	Tyr	Leu	Ala	Glu	Tyr	Ile	Val
			180					185					190		
Glu	Lys	Asp	Pro												
			195												

<210> 608  
 <211> 262  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 608

Ser	Ser	Tyr	Ser	Arg	Arg	Gln	Leu	Arg	Phe	Tyr	Thr	Gly	Ser	Leu	Gln
1					5				10					15	
Met	His	Ile	Tyr	Gly	Leu	Ala	Asp	Leu	His	Leu	Ala	Leu	Gly	Val	Pro
			20					25					30		
Glu	Lys	Thr	Met	Glu	Val	Phe	Gly	Asp	Pro	Trp	Ile	Gly	Tyr	His	Gln
		35					40					45			
Lys	Ile	Cys	Ser	Glu	Trp	Gln	Ala	Val	Val	His	Pro	Glu	Asp	Ile	Val
	50					55				60					
Leu	Leu	Pro	Gly	Asp	Ile	Ser	Trp	Ala	Met	Asn	Leu	Ser	Glu	Ala	His
65					70					75				80	
Lys	Asp	Phe	Ala	Phe	Ile	Gly	Asp	Leu	Pro	Gly	Thr	Lys	Tyr	Met	Ile
			85					90						95	
Arg	Gly	Asn	His	Asp	Tyr	Trp	Ser	Ser	Ala	Ser	Thr	Ser	Lys	Ile	Leu
		100						105					110		
Gln	Ala	Leu	Pro	Pro	Ser	Leu	Tyr	Tyr	Leu	Asn	Gln	Gly	Phe	Ala	Leu
		115						120				125			
Leu	Thr	Pro	His	Leu	Ala	Val	Val	Gly	Val	Arg	Leu	Trp	Asp	Ser	Pro
	130					135					140				
Thr	Ile	Cys	Val	Lys	Lys	Glu	Asn	Phe	Leu	Thr	Pro	Ser	Thr	Gln	Glu
145					150					155				160	
Gln	Ser	Tyr	Thr	Glu	Gln	Asp	Glu	Lys	Ile	Phe	Leu	Arg	Glu	Leu	Gly
			165					170					175		
Arg	Leu	Lys	Arg	Ala	Phe	Ala	Ala	Leu	Pro	Lys	Glu	Val	Thr	Glu	Val
			180					185					190		
Ile	Val	Met	Thr	His	Tyr	Pro	Pro	Ile	Ser	Ser	Asp	Gly	Thr	Pro	Gly
			195				200					205			



Pro Ile Ser Glu Phe Leu Glu Ala Asp Gly Arg Val Ser Leu Cys Leu  
 210 215 220  
 Phe Gly His Ile His Lys Val Gln Arg Pro Ile Asp Gly Phe Gly Asn  
 225 230 235 240  
 Ile Arg Gly Ile His Tyr Ile Leu Val Ala Ala Asp Tyr Val Asn Phe  
 245 250 255  
 Val Pro Gln Glu Val Met  
 260

<210> 609  
 <211> 446  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 609  
 Asn Arg Arg Ile Gln Met Ile Glu Asn Asp Phe Pro Glu Ala Ser Asn  
 1 5 10 15  
 Phe Glu Ser Ser His Phe Tyr Arg Asp Lys Val Gly Val Ile Leu  
 20 25 30  
 Cys Gly Gly Glu Gly Lys Arg Leu Ser Pro Leu Thr Asn Cys Arg Cys  
 35 40 45  
 Lys Pro Thr Val Ser Phe Gly Gly Arg Tyr Lys Leu Ile Asp Ile Pro  
 50 55 60  
 Ile Ser His Ala Ile Ser Ala Gly Phe Ser Lys Ile Phe Val Ile Gly  
 65 70 75 80  
 Gln Tyr Leu Thr Tyr Thr Leu Gln Gln His Leu Phe Lys Thr Tyr Phe  
 85 90 95  
 Tyr His Gly Val Leu Gln Asp Gln Ile His Leu Leu Ala Pro Glu Ala  
 100 105 110  
 Arg Gln Gly Asp Gln Ile Trp Tyr Gln Gly Thr Ala Asp Ala Ile Arg  
 115 120 125  
 Lys Asn Leu Leu Tyr Phe Glu Asp Thr Glu Ile Glu Tyr Phe Leu Ile  
 130 135 140  
 Leu Ser Gly Asp Gln Leu Tyr Asn Met Asp Phe Arg Ser Ile Val Asp  
 145 150 155 160  
 Thr Ala Ile Arg Thr His Val Asp Met Val Leu Val Ala Gln Pro Ile  
 165 170 175  
 Pro Glu Lys Asp Ala Tyr Arg Met Gly Val Leu Asp Ile Asp Ser Glu  
 180 185 190  
 Gly Lys Leu Ile Asp Phe Tyr Glu Lys Pro Gln Glu Lys Glu Val Leu  
 195 200 205  
 Lys Arg Phe Gln Leu Ser Ser Glu Asp Arg Arg Ile His Lys Leu Thr  
 210 215 220  
 Glu Asp Ser Gly Asp Phe Leu Gly Ser Met Gly Ile Tyr Leu Phe Arg  
 225 230 235 240  
 Arg Asp Ser Leu Phe Ser Leu Leu Arg Glu Glu Glu Gly Asn Asp Phe  
 245 250 255  
 Gly Lys His Leu Ile Gln Ala Gln Met Lys Arg Gly Gln Val Gln Thr  
 260 265 270  
 Leu Leu Tyr Asn Gly Tyr Trp Ala Asp Ile Gly Thr Ile Glu Ser Tyr  
 275 280 285  
 Tyr Glu Ala Asn Ile Ala Leu Thr Gln Lys Pro His Ala Glu Lys Arg  
 290 295 300  
 Gly Leu Asn Cys Tyr Asp Asp Asn Gly Met Ile Tyr Ser Lys Asn His  
 305 310 315 320  
 His Leu Pro Gly Ala Ile Ile Thr Asp Ser Met Ile Ser Ser Ser Leu  
 325 330 335  
 Leu Cys Glu Gly Cys Val Ile Asn Thr Ser His Val Ser Arg Ser Val  
 340 345 350  
 Leu Gly Ile Arg Ser Lys Ile Gly Glu Asn Ser Val Val Asp Gln Ser  
 355 360 365

Ile Ile Met Gly Asn Ala Arg Tyr Gly Ser Pro Ser Met Pro Ser Leu  
 370 375 380  
 Gly Ile Gly Lys Asp Cys Glu Ile Arg Lys Ala Ile Ile Asp Glu Asn  
 385 390 395 400  
 Cys Cys Ile Gly Asn Gly Val Lys Leu Gln Asn Leu Lys Gly Tyr Ile  
 405 410 415  
 Lys Tyr Asp Ser Pro Asp Lys Lys Leu Phe Val Arg Asp Asn Ile Ile  
 420 425 430  
 Ile Val Pro Gln Gly Thr His Ile Pro Asp Asn Tyr Ile Phe  
 435 440 445

<210> 610  
 <211> 225  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 610

Val Ser Phe Leu Tyr Phe Val Lys Asn Gly Arg Arg Leu Trp Arg Met  
 1 5 10 15  
 Met Asn Tyr Glu Asp Ala Lys Leu Arg Gly Gln Ala Val Ala Ile Leu  
 20 25 30  
 Tyr Gln Ile Gly Ala Ile Lys Phe Gly Lys His Ile Leu Ala Ser Gly  
 35 40 45  
 Glu Glu Thr Pro Leu Tyr Val Asp Met Arg Leu Val Ile Ser Ser Pro  
 50 55 60  
 Glu Val Leu Gln Thr Val Ala Thr Leu Ile Trp Arg Leu Arg Pro Ser  
 65 70 75 80  
 Phe Asn Ser Ser Leu Leu Cys Gly Val Pro Tyr Thr Ala Leu Thr Leu  
 85 90 95  
 Ala Thr Ser Ile Ser Leu Lys Tyr Asn Ile Pro Met Val Leu Arg Arg  
 100 105 110  
 Lys Glu Leu Gln Asn Val Asp Pro Ser Asp Ala Ile Lys Val Glu Gly  
 115 120 125  
 Leu Phe Thr Pro Gly Gln Thr Cys Leu Val Ile Asn Asp Met Val Ser  
 130 135 140  
 Ser Gly Lys Ser Ile Ile Glu Thr Ala Val Ala Leu Glu Glu Asn Gly  
 145 150 155 160  
 Leu Val Val Arg Glu Ala Leu Val Phe Leu Asp Arg Arg Lys Glu Ala  
 165 170 175  
 Cys Gln Pro Leu Gly Pro Gln Gly Ile Lys Val Ser Ser Val Phe Thr  
 180 185 190  
 Val Pro Thr Leu Ile Lys Ala Leu Ile Ala Tyr Gly Lys Leu Ser Ser  
 195 200 205  
 Gly Asp Leu Thr Leu Ala Asn Lys Ile Ser Glu Ile Leu Glu Ile Glu  
 210 215 220  
 Ser  
 225

<210> 611  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 611

Gln Asn Thr Lys Asn Ser Leu Ile Arg Glu Asn Met Leu Ile Arg Leu  
 1 5 10 15  
 Phe Leu Gly Ile Ser Leu Pro Lys Gly Phe Pro Leu Tyr Leu Glu Pro  
 20 25 30  
 Pro Leu Val Leu Ala Thr Phe Gln Gly Thr Gln Phe Val Gly Thr Tyr  
 35 40 45

Ser Glu Ala Thr Asn Pro Leu Tyr Ile Asp Asn Leu Asn Leu Asn Tyr  
50 55 60  
His Tyr Thr Gln Glu Leu Leu Tyr Lys Ala Val Pro Cys Asn Tyr Lys  
65 70 75 80  
Ser Ile Tyr Arg Glu Ile Pro Leu Ile Ile Phe Pro Glu Val Leu Ile  
85 90 95  
Gly Ser Thr Pro Thr Gln Ser Thr Glu  
100 105

<210> 612

<211> 474

<212> PRT

<213> Chlamydia pneumoniae

<400> 612

Arg Ile Phe Leu Arg Phe Lys Gly Ser Ile Met Lys Glu Glu Arg Ser  
1 5 10 15  
Ser Glu Ile Leu Pro Arg Val Lys Glu Thr Lys Lys His Ala Tyr Val  
20 25 30  
Ser Met Gln Glu Lys Ser Cys Val Gly Glu Cys Ala Val Val Ala Ser  
35 40 45  
Glu Ser Glu Glu Ala Glu Ser Val Thr Val Thr Lys Ile Ala Lys Leu  
50 55 60  
Gln Arg Met Gly Ile Glu Glu Leu Asn Ile Leu Ala Arg Gln Tyr Gly  
65 70 75 80  
Val Lys Asn Ile Gly Ser Leu Thr Lys Ser Gln Val Val Phe Glu Ile  
85 90 95  
Val Lys Ala Lys Ser Glu Arg Pro Asp Glu Leu Leu Ile Gly Glu Gly  
100 105 110  
Val Leu Glu Val Leu Pro Asp Gly Phe Gly Phe Leu Arg Ser Pro Thr  
115 120 125  
Tyr Asn Tyr Leu Pro Ser Ala Glu Asp Ile Tyr Val Ser Pro Ala Gln  
130 135 140  
Ile Arg Arg Phe Asp Leu Lys Lys Gly Asp Thr Ile Ile Gly Thr Ile  
145 150 155 160  
Arg Ser Pro Lys Glu Lys Glu Lys Tyr Phe Ala Leu Leu Lys Val Asp  
165 170 175  
Lys Ile Asn Gly Ser Thr Pro Asp Lys Ala Lys Glu Arg Val Leu Phe  
180 185 190  
Glu Asn Leu Thr Pro Leu Tyr Pro Asn Gln Arg Ile Val Met Glu Met  
195 200 205  
Gly Lys Asp His Leu Ala Glu Arg Val Leu Asp Leu Thr Ala Pro Ile  
210 215 220  
Gly Lys Gly Gln Arg Gly Leu Ile Val Ala Pro Pro Arg Ser Gly Lys  
225 230 235 240  
Thr Val Ile Leu Gln Ser Ile Ala His Ala Ile Ala Val Asn Asn Pro  
245 250 255  
Asp Ile Val Leu Ile Val Leu Leu Ile Asp Glu Arg Pro Glu Glu Val  
260 265 270  
Thr Asp Met Ile Arg Gln Val Arg Gly Glu Val Val Ala Ser Thr Phe  
275 280 285  
Asp Glu Gln Pro Glu Arg His Ile Gln Val Ala Glu Met Val Ile Glu  
290 295 300  
Lys Ala Arg Arg Leu Val Glu His Gly Asn Asp Val Val Ile Leu Leu  
305 310 315 320  
Asp Ser Ile Thr Arg Leu Ala Arg Ala Tyr Asn Thr Val Gln Pro His  
325 330 335  
Ser Gly Lys Ile Leu Thr Gly Gly Val Asp Ala Ser Ala Leu His Lys  
340 345 350  
Pro Lys Arg Phe Phe Gly Ala Ala Arg Asn Ile Glu Gly Gly Gly Ser  
355 360 365

Leu Thr Ile Leu Ala Thr Ala Leu Ile Asp Thr Gly Ser Arg Met Asp  
 370 375 380  
 Glu Val Ile Phe Glu Glu Phe Lys Gly Thr Gly Asn Met Glu Leu Val  
 385 390 395 400  
 Leu Asp Arg Arg Leu Ser Asp Arg Arg Thr Tyr Pro Ala Ile Asp Leu  
 405 410 415  
 Ile Lys Ser Gly Thr Arg Lys Glu Glu Leu Leu Tyr His Pro Ser Glu  
 420 425 430  
 Leu Glu Arg Val Tyr Leu Phe Arg Gln Ala Ile Ala Asp Leu Thr Thr  
 435 440 445  
 Ile Asp Ala Met His Leu Leu Leu Gly Arg Leu Lys Lys Thr Asn Ser  
 450 455 460  
 Asn Ala Glu Phe Leu Leu Ser Leu Lys Glu  
 465 470

<210> 613

<211> 238

<212> PRT

<213> Chlamydia pneumoniae

<400> 613

Arg Arg Asn Arg Arg Asp Ala Lys Thr Ser Glu Arg Glu Asp Gly Ile  
 1 5 10 15  
 Ser Tyr Asp Phe Ile Arg Ser Tyr Ser Cys Glu Tyr Leu Asn Trp Lys  
 20 25 30  
 Lys Leu Gly Arg Met Leu Lys Leu Lys Val Ser Ile Thr Gly Asp  
 35 40 45  
 Leu Ser Ser Gly Lys Thr Glu Ala Cys Gln Val Phe Gln Glu Leu Gly  
 50 55 60  
 Ala Tyr Val Val Ser Ala Asp Glu Ile Ser His Ser Phe Leu Ile Pro  
 65 70 75 80  
 His Thr Arg Ile Gly Arg Arg Val Ile Asp Leu Leu Gly Ser Asp Val  
 85 90 95  
 Val Val Asp Gly Ala Phe Asp Ala Gln Ala Ile Ala Ala Lys Val Phe  
 100 105 110  
 Tyr Asn Ser Val Leu Leu Gln Gly Leu Glu Ala Ile Leu His Pro Glu  
 115 120 125  
 Val Cys Arg Ile Ile Glu Glu Gln Tyr His Gln Ser Ile Gln Asp Gly  
 130 135 140  
 Asn Tyr Pro Leu Phe Val Ala Glu Val Pro Leu Leu Tyr Glu Ile His  
 145 150 155 160  
 Tyr Ala Lys Trp Phe Asp Ser Val Ile Leu Val Met Ala Asn Glu Asp  
 165 170 175  
 Ile Arg Arg Glu Arg Phe Met Lys Lys Thr Gly Arg Ser Ser Glu Asp  
 180 185 190  
 Phe Asp Gln Arg Cys Ser Arg Phe Leu Asn Val Glu Glu Lys Leu Ala  
 195 200 205  
 Gln Ala Asp Val Val Val Glu Asn Asn Gly Thr Lys Lys Glu Leu His  
 210 215 220  
 Gln Lys Ile Glu Glu Tyr Phe Tyr Ala Leu Lys Gly Ala Leu  
 225 230 235

<210> 614

<211> 889

<212> PRT

<213> Chlamydia pneumoniae

<400> 614

Arg Cys Ile His Thr Ser Leu Leu Cys Thr Val Glu Arg Pro Arg Arg  
 1 5 10 15

Glu	Tyr	Ala	Met	Lys	Lys	Leu	Phe	Val	Leu	Asp	Ala	Ser	Gly	Phe	Ile
			20					25					30		
Phe	Arg	Ala	Tyr	Phe	Ala	Leu	Pro	Glu	Met	Lys	Asn	His	Gln	Gly	Gln
		35					40				45				
Ala	Thr	Gln	Ala	Val	Phe	Gly	Phe	Ile	Arg	Ser	Leu	Asn	Lys	Leu	Ile
	50					55				60					
Lys	Glu	Phe	Ser	Pro	Glu	Tyr	Met	Ile	Ser	Val	Phe	Asp	Gly	Pro	Asn
65					70				75					80	
Asn	Lys	Gln	Ser	Arg	Gln	Ala	Ile	Tyr	Ala	Asp	Tyr	Lys	Ser	Asn	Arg
			85					90						95	
Gln	Lys	Lys	Phe	Glu	Asp	Ile	Pro	Pro	Gln	Ile	Ala	Leu	Val	Lys	Glu
			100					105					110		
Tyr	Cys	Ser	Leu	Ile	Gly	Leu	Ala	Tyr	Leu	Glu	Lys	Glu	Ser	Val	Glu
		115					120					125			
Ala	Asp	Asp	Val	Ile	Ala	Ser	Ile	Ala	Lys	Lys	Ala	Arg	Glu	Glu	Asn
	130					135					140				
Tyr	Lys	Val	Tyr	Val	Cys	Thr	Ala	Asp	Lys	Asp	Leu	Leu	Gln	Leu	Val
145					150					155					160
Asn	Asp	His	Val	Val	Ala	Trp	Asn	Pro	Trp	Ala	Asp	Gln	Gly	Val	Val
			165					170						175	
Gly	Ile	Ser	Glu	Val	Ile	Glu	Arg	Tyr	Gly	Ile	Pro	Pro	Gly	Asn	Ile
		180						185					190		
Pro	Asp	Tyr	Leu	Ala	Leu	Val	Gly	Asp	Ser	Ser	Asp	Asn	Ile	Pro	Gly
		195					200					205			
Leu	Pro	Gly	Cys	Gly	Pro	Lys	Lys	Ala	Ala	Ala	Leu	Leu	Lys	Gln	Phe
	210					215					220				
Gly	Ser	Val	Glu	Gly	Leu	Glu	Asn	Leu	Asp	Ala	Val	Lys	Gly	Leu	
225					230				235					240	
Ser	Gln	Thr	Met	Leu	Ser	Glu	Arg	Gln	Glu	Thr	Leu	Lys	Leu	Ser	Lys
			245					250						255	
Arg	Leu	Ala	Leu	Leu	Asp	Ser	Asn	Ile	Pro	Ile	Pro	Val	Pro	Ile	Glu
		260						265					270		
Ser	Leu	Thr	Phe	Pro	Gln	His	Pro	Val	Asp	Glu	Glu	Lys	Leu	Ile	His
		275					280						285		
Phe	Tyr	Ile	Gln	Gln	Gly	Phe	Lys	Thr	Leu	Val	Pro	Ser	Lys	Gln	Thr
	290					295					300				
Glu	Ala	Ala	Thr	Val	Asp	Val	Gln	Ile	Ile	Lys	Asp	Ala	Glu	Ser	Leu
305					310					315					320
Thr	Asn	Ile	Leu	Asn	Leu	Val	Gln	Gly	Gly	Asp	Ile	Ala	Phe	Ala	Val
			325						330					335	
Ala	Tyr	Thr	Gly	Asn	His	Leu	Leu	Ser	Leu	Lys	Leu	Glu	Gly	Leu	Ala
		340						345					350		
Leu	Thr	Gln	Gly	Ser	Gly	Val	Phe	Ile	Ala	Leu	Glu	Glu	Glu	Gly	
		355					360					365			
Thr	Lys	Ile	Leu	Pro	Ile	Leu	Lys	Asp	Phe	Phe	Leu	Arg	Glu	Asp	Leu
	370					375					380				
Thr	Phe	Tyr	Gly	Tyr	Asn	Leu	Lys	Arg	Asp	Cys	His	Ala	Leu	Leu	Asn
385					390					395					400
Ala	Gly	Ile	Val	Ile	Arg	Glu	Ile	Ser	Tyr	Asp	Leu	Ala	Leu	Ala	Glu
			405						410					415	
His	Leu	Thr	Asn	Gly	Gly	Gly	Lys	Ile	Ser	Phe	Gln	Ser	Leu	Leu	Val
		420						425					430		
Asn	His	Gly	Phe	Thr	Glu	Thr	Ala	His	Arg	Phe	Ala	Lys	Glu	Trp	Gly
		435					440					445			
Asn	Ser	Gly	Leu	Pro	Ile	Gly	Arg	Leu	Pro	Glu	Gln	Pro	Glu	Gln	Tyr
	450					455					460				
Phe	Gly	Glu	Phe	Val	Ala	Tyr	Leu	Pro	Ile	Ile	Lys	Asp	Ala	Ile	Leu
465					470					475					480
Glu	Glu	Ile	Asn	Arg	Lys	Asn	Leu	Asn	His	Ile	Leu	Ser	Asp	Ile	Glu
			485						490						495

Met Pro Leu Glu Lys Val Leu Phe Ser Met Glu Arg Ala Gly Val Pro  
 500 505 510  
 Leu Asp Val Glu Glu Leu Ala Ile Leu Glu Ala Leu Phe Glu Thr Glu  
 515 520 525  
 Leu Ala Val Leu Thr Glu Glu Ile Tyr Asp Leu Ser Gly Arg Pro Phe  
 530 535 540  
 Asn Ile Lys Ser Pro Lys Gln Leu Ser Asp Ile Leu Tyr Asn Glu Leu  
 545 550 555 560  
 Gly Leu Arg Pro Ile Asp Lys Ala Lys Ser Thr Arg Ala Glu Val Leu  
 565 570 575  
 Glu Ala Leu Arg Ser Glu His Pro Ile Ile Glu Lys Leu Leu Ala Phe  
 580 585 590  
 Arg Thr Ile Glu Lys Leu Leu Ser Thr Tyr Val Lys Ala Leu Pro Lys  
 595 600 605  
 Gln Val Asp Ser His Thr Gln Arg Ile His Pro Ser Phe Asp Gln Thr  
 610 615 620  
 Gly Ala Val Thr Gly Arg Leu Ala Cys Arg Asp Pro Asn Leu Gln Asn  
 625 630 635 640  
 Ile Pro Ile Arg Ser Glu Arg Gly Ile Leu Leu Arg Lys Ala Phe Arg  
 645 650 655  
 Leu Ser Glu Lys Asn Ser Tyr Phe Leu Ser Ala Asp Tyr Ser Gln Ile  
 660 665 670  
 Glu Leu Arg Phe Leu Ala His Leu Ser Gln Asp Lys Ser Leu Lys Phe  
 675 680 685  
 Ala Phe Glu Ser Gly Glu Asp Ile His Ala Phe Thr Ala Ser Gln Val  
 690 695 700  
 Phe His Val Pro Leu Glu Gln Val Ser Lys Glu Gln Arg Met Gln Ala  
 705 710 715 720  
 Lys Thr Val Asn Phe Gly Ile Val Tyr Gly Gln Gln Ala Phe Gly Leu  
 725 730 735  
 Ala Lys Val Leu Lys Ile Ser Ile Gly Glu Ala Gln Glu Leu Ile Gln  
 740 745 750  
 Ala Tyr Phe Ser Arg Tyr Pro Glu Ile Ala His Phe Val Glu Glu Thr  
 755 760 765  
 Ile Gln Gln Ala Ala Lys Asp Leu Arg Val Thr Thr Met Leu Gly Arg  
 770 775 780  
 Glu Arg Ile Ile Asp Ser Trp Asn Glu Phe Pro Gly Ser Arg Ala Ala  
 785 790 795 800  
 Ser Gly Arg Phe Ala Val Asn Thr Arg Ile Gln Gly Ser Ala Ala Glu  
 805 810 815  
 Leu Ile Lys Leu Ala Met Leu Asp Ile Ser Gln Ala Ile Lys Gln Gln  
 820 825 830  
 Gln Met Lys Ser Arg Met Leu Leu Gln Ile His Asp Glu Leu Leu Phe  
 835 840 845  
 Glu Val Pro Glu Glu Glu Ile Glu Glu Met Gln Arg Leu Val Arg Glu  
 850 855 860  
 Lys Met Glu Ser Ala Met Thr Leu Ser Val Pro Ile Val Val Asn Ile  
 865 870 875 880  
 Leu Ile Gly Lys Asn Trp Ala Glu Cys  
 885

<210> 615  
 <211> 335  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 615  
 Val Val Met Lys Thr Leu Trp His Phe Val Ser Lys Ala Phe Leu Ser  
 1 5 10 15  
 Ile Val Gly Leu Cys Cys Gly Val Val Leu Ala Phe Val Val Ile Phe  
 20 25 30

Ala Leu Ile Ala Ser Ser Leu Gly Asn Gly Asp Ala Thr Phe Val Ser  
 35 40 45  
 Leu Pro Asp Ala Gln Gly Glu Val Lys Asp Leu Gly Lys Thr Ala Pro  
 50 55 60  
 Ile Ile Ala Val Ile Glu Met Lys Asp Val Ile Ala Ser Ser Lys Asn  
 65 70 75 80  
 Thr Ala Lys Thr Ile Gln Asn Ile Leu Glu Gly Phe Glu Lys Ala Pro  
 85 90 95  
 Leu Lys Asp Arg Val Lys Gly Ile Val Ile Asp Met Asp Cys Pro Gly  
 100 105 110  
 Gly Glu Val Phe Glu Ile Asp Arg Ile Tyr Ser Met Leu Arg Phe Trp  
 115 120 125  
 Lys Glu Arg Lys Gly Phe Pro Ile Tyr Ile Tyr Val Asn Gly Leu Cys  
 130 135 140 160  
 Ala Ser Gly Gly Tyr Tyr Val Ser Cys Ala Ala Thr Lys Ile Tyr Ala  
 145 150 155  
 Thr Ser Ser Ser Leu Ile Gly Ser Ile Gly Val Arg Ser Gly Pro Phe  
 165 170 175  
 Phe Asn Val Lys Glu Gly Leu Asn Arg Tyr Gly Val Glu Ser Asp Leu  
 180 185 190  
 Leu Thr Ala Gly Lys Asp Lys Ala Pro Met Asn Pro Tyr Thr Pro Trp  
 195 200 205  
 Thr Ser His Asp Arg Glu Glu Arg Gln Ala Thr Leu Asp Phe Leu Tyr  
 210 215 220  
 Gly Gln Phe Val Asp Ile Val Thr Gln Asn Arg Pro Leu Leu Thr Lys  
 225 230 235 240  
 Glu Lys Leu Val His Thr Leu Gly Ala Arg Ile Phe Ser Pro Glu Lys  
 245 250 255  
 Ala Lys Gln Glu Gly Tyr Ile Asp Val Val Gly Ala Thr Lys Glu Gln  
 260 265 270  
 Val Leu Gln Asp Ile Val Ala Val Cys Lys Ile Glu Asp Asn Tyr Arg  
 275 280 285  
 Val Ile Gly Ser Gly Gly Asp Gly Trp Trp Lys Arg Val Ala Ser Ala  
 290 295 300  
 Ala Ala Ser Ser Pro Leu Val Thr Gly Met Ile Lys His Asp Ile Leu  
 305 310 315 320  
 Pro Leu Ser His Asp Ala Ala Tyr Ile Pro Pro Tyr Leu Ala Leu  
 325 330 335

<210> 616  
 <211> 551  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 616  
 Val Phe Ile Arg His Lys Val Gly Lys Glu Phe Met Gln Ser Ser Glu  
 1 5 10 15  
 Val Lys Pro Phe Ser Arg Leu Arg Ala Tyr Leu Cys Pro Ile Tyr Lys  
 20 25 30  
 Ser Glu Phe Ser Lys Phe Val Pro Leu Phe Leu Leu Ala Phe Phe Val  
 35 40 45  
 Gly Phe Asn Tyr Cys Leu Leu Lys Asn Met Lys Asp Thr Leu Val Ile  
 50 55 60  
 Val Gly Ser Asp Ala Gly Ala Glu Val Ile Pro Phe Leu Lys Val Trp  
 65 70 75 80  
 Gly Ile Val Pro Gly Ala Val Ile Val Thr Met Val Tyr Gly Trp Leu  
 85 90 95  
 Gly Ser Arg Tyr Pro Arg Asp Thr Val Phe Tyr Cys Phe Met Ala Ala  
 100 105 110  
 Phe Leu Gly Phe Phe Phe Leu Phe Ala Val Ile Ile Tyr Pro Val Gly  
 115 120 125

Asp Ser Leu His Leu Asn Ser Leu Ala Asp Lys Leu Gln Glu Leu Leu  
 130 135 140  
 Pro Gln Gly Leu Arg Gly Phe Ile Val Met Val Arg Tyr Trp Ser Tyr  
 145 150 155 160  
 Ser Ile Tyr Tyr Val Met Ser Glu Leu Trp Ser Ser Val Val Leu Ser  
 165 170 175  
 Met Leu Phe Trp Gly Leu Ala Asn Gln Ile Thr Thr Ile Thr Glu Ala  
 180 185 190  
 Gly Arg Phe Tyr Ala Leu Ile Asn Thr Gly Leu Asn Leu Ser Ser Ile  
 195 200 205  
 Cys Ala Gly Glu Ile Ser Tyr Trp Met Gly Lys Gln Thr Phe Val Ala  
 210 215 220  
 Tyr Ser Phe Ala Cys Asp Ser Trp His Ser Val Met Leu Asn Leu Thr  
 225 230 235 240  
 Met Leu Ile Thr Cys Ser Gly Leu Ile Met Ile Trp Leu Tyr Arg Arg  
 245 250 255  
 Ile His His Leu Thr Ile Asp Thr Ser Ile Pro Pro Ser Arg Arg Val  
 260 265 270  
 Leu Ala Glu Glu Gly Ala Ala Thr Ala Asn Leu Lys Glu Lys Lys Lys  
 275 280 285  
 Pro Lys Ala Lys Ala Arg Asn Leu Phe Leu His Leu Ile Gln Ser Arg  
 290 295 300  
 Tyr Leu Leu Gly Leu Ala Ile Ile Val Leu Ser Tyr Asn Leu Val Ile  
 305 310 315 320  
 His Leu Phe Glu Val Val Trp Lys Asp Gln Val Ser Gln Ile Tyr Ser  
 325 330 335  
 Ser His Val Glu Phe Asn Gly Tyr Met Ser Arg Ile Thr Thr Leu Ile  
 340 345 350  
 Gly Val Val Ser Val Leu Ala Ala Val Leu Leu Thr Gly Gln Cys Ile  
 355 360 365  
 Arg Lys Trp Gly Trp Thr Val Gly Ala Leu Val Thr Pro Leu Val Met  
 370 375 380  
 Leu Val Ser Gly Leu Leu Phe Phe Gly Thr Ile Phe Ala Ala Lys Arg  
 385 390 395 400  
 Asp Ile Ser Ile Phe Gly Gly Val Leu Gly Met Thr Pro Leu Ala Leu  
 405 410 415  
 Ala Ala Trp Thr Gly Gly Met Gln Asn Val Leu Ser Arg Gly Thr Lys  
 420 425 430  
 Phe Thr Phe Phe Asp Gln Thr Lys Glu Met Ala Phe Ile Pro Leu Ser  
 435 440 445  
 Pro Glu Asp Lys Asn His Gly Lys Ala Ala Ile Asp Gly Val Val Ser  
 450 455 460  
 Arg Ile Gly Lys Ser Gly Gly Ser Leu Ile Tyr Gln Gly Leu Leu Val  
 465 470 475 480  
 Ile Phe Ser Ser Val Ala Ala Ser Leu Asn Val Ile Ala Leu Val Leu  
 485 490 495  
 Leu Ile Ile Met Val Val Trp Ile Ala Val Val Ala Tyr Ile Gly Lys  
 500 505 510  
 Glu Tyr Tyr Ser Arg Ala Ala Asp Ala Val Ala Thr Leu Lys Gln Pro  
 515 520 525  
 Lys Glu Pro Ser Ser Ser Ile Val Arg Glu Ala Gln Glu Ser Val Glu  
 530 535 540  
 Gln Glu Glu Met Ala Val Leu  
 545 550

<210> 617  
 <211> 172  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 617

Leu	Ala	Lys	Ile	Met	Arg	Gln	Phe	Cys	Asn	Leu	Leu	Ser	Leu	Ser	Arg
1				5					10					15	
Leu	Trp	Leu	Ala	Leu	Tyr	Phe	Cys	Gln	Glu	Lys	Leu	His	Ile	Arg	Leu
			20					25					30		
Leu	Ala	Ile	Val	Gly	Ala	Met	Leu	Ser	Asp	Val	Leu	Asp	Gly	Tyr	Leu
		35					40					45			
Ala	Arg	Arg	Tyr	Lys	Ala	Thr	Ser	Arg	Leu	Gly	Ser	Ile	Leu	Asp	Pro
	50					55					60				
Ile	Thr	Asp	Lys	Val	Phe	Val	Phe	Val	Cys	Ile	Thr	Val	Leu	Tyr	Met
65					70					75					80
Glu	Gly	Ser	Leu	Ser	Ile	Ala	His	Leu	Phe	Phe	Ile	Cys	Ala	Arg	Asp
				85					90					95	
Leu	Phe	Leu	Ile	Ile	Phe	Val	Cys	Tyr	Leu	Ser	Leu	Val	Lys	Gly	Trp
			100					105					110		
Lys	Gly	Tyr	Asp	Tyr	Gly	Ser	Leu	Phe	Trp	Gly	Lys	Ile	Phe	Thr	Val
		115					120					125			
Val	Gln	Phe	Ile	Ile	Leu	Leu	Gly	Val	Thr	Ala	Gly	Gly	Glu	Ile	Pro
	130						135					140			
Trp	Thr	Gly	Leu	Val	Pro	Leu	Val	Ala	Leu	Gly	Phe	Leu	Tyr	Phe	Leu
145					150					155					160
Glu	Arg	Ile	Met	Asp	Tyr	Lys	Lys	Gln	Phe	Leu	Arg				
				165					170						

<210> 618  
 <211> 478  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 618

Thr	Leu	Thr	Asn	Tyr	Glu	Ser	Ser	Leu	Leu	Met	Asp	Lys	Ser	Thr	Gly
1				5					10					15	
Val	Pro	Leu	Pro	Ser	Pro	Pro	His	Ser	Lys	Glu	Ser	Glu	Met	Ile	Val
			20					25					30		
Leu	Gly	Cys	Met	Leu	Thr	Gly	Val	His	Tyr	Leu	Asn	Leu	Ala	Ala	Asn
		35					40					45			
Gln	Leu	Tyr	Glu	Glu	Asp	Phe	Tyr	Tyr	Leu	Glu	His	Lys	Ile	Ile	Phe
	50					55					60				
Arg	Val	Leu	Gln	Asp	Ala	Phe	Lys	Gln	Asp	Lys	Pro	Ile	Asp	Val	His
65					70					75					80
Leu	Ala	Gly	Glu	Glu	Leu	Lys	Arg	His	Asn	Gln	Ile	Thr	Val	Ile	Gly
				85					90					95	
Gly	Pro	Ser	Tyr	Leu	Ile	Thr	Leu	Ala	Glu	Phe	Ala	Gly	Thr	Ala	Ala
			100					105					110		
Tyr	Leu	Glu	Glu	Tyr	Val	Asp	Ile	Ile	Arg	Ser	Lys	Ser	Ile	Leu	Arg
		115					120					125			
Lys	Met	Ile	Ser	Thr	Ala	Lys	Glu	Ile	Glu	Lys	Arg	Ala	Leu	Glu	Gln
	130					135					140				
Pro	Lys	Asn	Val	Ala	Glu	Ala	Leu	Asp	Glu	Ala	Gln	Asn	Ser	Phe	Phe
145					150					155					160
Lys	Ile	Ser	Gln	Ser	Thr	Ser	Val	Ser	Gln	Tyr	Thr	Leu	Val	Ala	Asp
				165					170					175	
Lys	Leu	Arg	Gly	Leu	Thr	Thr	Thr	Thr	Asp	Lys	Pro	Tyr	Leu	Val	Gln
			180					185					190		
Leu	Gln	Glu	Arg	Gln	Glu	Leu	Phe	Leu	Gln	Asn	Ala	Gln	Gly	Asp	Asn
		195					200					205			
Lys	Ser	Phe	Phe	Thr	Gly	Ile	Pro	Thr	His	Phe	Ile	Asp	Leu	Asp	Gln
	210					215					220				
Leu	Ile	His	Gly	Phe	Ser	Pro	Ser	Asn	Leu	Met	Ile	Leu	Ala	Ala	Arg
225					230					235					240

Pro Ala Met Gly Lys Thr Ala Leu Ala Leu Asn Ile Ala Glu Asn Leu  
 245 250 255  
 Cys Phe Gln Asn Arg Leu Pro Ile Gly Ile Phe Ser Leu Glu Met Thr  
 260 265 270  
 Val Asp Gln Leu Ile His Arg Met Ile Cys Ser Arg Ser Glu Val Asp  
 275 280 285  
 Ser Lys Lys Ile Ser Ile Gly Asp Leu Ser Gly His Asp Phe Gln Arg  
 290 295 300  
 Ile Val Ser Val Ile Asn Glu Met Gln Glu His Thr Leu Leu Ile Asp  
 305 310 315 320  
 Asp Gln Pro Gly Leu Lys Val Ser Asp Leu Arg Ala Arg Ala Arg Arg  
 325 330 335  
 Met Lys Glu Ser Tyr Asp Ile Gln Phe Leu Ile Ile Asp Tyr Leu Gln  
 340 345 350  
 Leu Leu Ser Gly Ser Gly Thr Leu Arg Ala Thr Glu Ser Arg Gln Thr  
 355 360 365  
 Glu Ile Ser Glu Ile Ser Arg Met Leu Lys Thr Leu Ala Arg Glu Leu  
 370 375 380  
 Asn Ile Pro Ile Leu Cys Leu Ser Gln Leu Ser Arg Lys Val Glu Asp  
 385 390 395 400  
 Arg Ala Asn His Arg Pro Met Met Ser Asp Leu Arg Glu Ser Gly Ser  
 405 410 415  
 Ile Glu Gln Asp Ser Asp Leu Val Met Phe Leu Leu Arg Arg Glu Tyr  
 420 425 430  
 Tyr Asp Pro Asn Asp Lys Pro Gly Thr Ala Glu Leu Ile Ile Ala Lys  
 435 440 445  
 Asn Arg His Gly Ser Ile Gly Ser Val Pro Leu Val Phe Glu Lys Glu  
 450 455 460  
 Leu Ala Arg Phe Arg Asn Tyr Ser Ala Phe Glu Cys Ile Ser  
 465 470 475

<210> 619  
 <211> 612  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 619  
 Leu Met Trp Thr His Pro Ile Ala Tyr Asp Val Ile Val Val Gly Ala  
 1 5 10 15  
 Gly His Ala Gly Cys Glu Ala Ala Tyr Cys Ser Ala Lys Met Gly Val  
 20 25 30  
 Ser Val Leu Met Leu Thr Ser Asn Leu Asp Thr Ile Ala Lys Leu Ser  
 35 40 45  
 Cys Asn Pro Ala Val Gly Gly Ile Gly Lys Gly His Ile Val Arg Glu  
 50 55 60  
 Ile Asp Ala Leu Gly Gly Ile Met Ala Glu Val Thr Asp Gln Ser Gly  
 65 70 75 80  
 Ile Gln Phe Arg Ile Leu Asn Gln Thr Lys Gly Pro Ala Val Arg Ala  
 85 90 95  
 Pro Arg Ala Gln Val Asp Lys Gln Leu Tyr His Ile His Met Lys Arg  
 100 105 110  
 Leu Leu Glu Asn Thr Pro Gly Leu His Ile Met Gln Ala Thr Val Glu  
 115 120 125  
 Ser Leu Leu Asp Lys Glu Gly Val Ile Ser Gly Val Thr Thr Lys Glu  
 130 135 140  
 Gly Trp Met Phe Ser Gly Lys Thr Val Val Leu Ser Ser Gly Thr Phe  
 145 150 155 160  
 Met Arg Gly Leu Ile His Ile Gly Asp Arg Asn Phe Ser Gly Gly Arg  
 165 170 175  
 Leu Gly Asp Pro Ser Ser Gln Gly Leu Ser Glu Asp Leu Lys Lys Arg  
 180 185 190

Gly Phe Pro Ile Ser Arg Leu Lys Thr Gly Thr Pro Pro Arg Leu Leu  
 195 200 205  
 Ala Ser Ser Ile Asn Phe Ser Cys Met Glu Glu Gln Pro Gly Asp Leu  
 210 215 220  
 Gly Val Gly Phe Val His Arg Thr Glu Pro Phe Gln Pro Pro Leu Pro  
 225 230 235 240  
 Gln Leu Ser Cys Phe Ile Thr His Thr Met Glu Lys Thr Lys Ala Ile  
 245 250 255  
 Ile Ser Ala Asn Leu His Arg Ser Ala Leu Tyr Gly Gly Cys Ile Glu  
 260 265 270  
 Gly Val Gly Pro Arg Tyr Cys Pro Ser Ile Glu Asp Lys Ile Val Lys  
 275 280 285  
 Phe Ser Asp Lys Glu Arg His His Val Phe Leu Glu Pro Glu Gly Leu  
 290 295 300  
 His Thr Gln Glu Ile Tyr Ala Asn Gly Leu Ser Thr Ser Met Pro Phe  
 305 310 315 320  
 Asp Val Gln Tyr Asp Met Ile Arg Ser Val Leu Gly Leu Glu Asn Ala  
 325 330 335  
 Ile Ile Thr Arg Pro Ala Tyr Ala Ile Glu Tyr Asp Tyr Ile His Gly  
 340 345 350  
 Asn Val Ile His Pro Thr Leu Glu Ser Lys Leu Ile Glu Gly Leu Phe  
 355 360 365  
 Leu Cys Gly Gln Ile Asn Gly Thr Thr Gly Tyr Glu Glu Ala Ala Ala  
 370 375 380  
 Gln Gly Leu Ile Ala Gly Ile Asn Ala Val Asn Lys Val Phe Asn Arg  
 385 390 395 400  
 Pro Pro Phe Ile Pro Ser Arg Gln Glu Ser Tyr Ile Gly Val Met Leu  
 405 410 415  
 Asp Asp Leu Thr Thr Gln Ile Leu Asp Glu Pro Tyr Arg Met Phe Thr  
 420 425 430  
 Gly Arg Ala Glu His Arg Leu Leu Leu Arg Gln Asp Asn Ala Cys Ala  
 435 440 445  
 Arg Leu Ser His Tyr Gly Tyr Glu Leu Gly Leu Leu Ser Glu Glu Arg  
 450 455 460  
 Tyr Glu Leu Val Lys Lys Gln Asn Gln Leu Leu Glu Glu Glu Lys Val  
 465 470 475 480  
 Arg Leu Gln Lys Thr Phe Arg Gln Tyr Gly Gln Ser Val Val Ser Leu  
 485 490 495  
 Ala Lys Ala Leu Ser Arg Pro Glu Val Ser Tyr Asp Met Leu Arg Glu  
 500 505 510  
 Ala Phe Pro Asn Asp Ile Arg Asp Leu Gly Ala Val Leu Asn Ala Ser  
 515 520 525  
 Leu Glu Met Glu Ile Lys Tyr Ser Gly Tyr Ile Asp Arg Gln Lys Ile  
 530 535 540  
 Leu Ile Gln Ser Leu Glu Lys Ala Glu Ser Leu Leu Ile Pro Glu Asp  
 545 550 555 560  
 Leu Asp Tyr Lys Gln Ile Thr Ala Leu Ser Leu Glu Ala Gln Glu Lys  
 565 570 575  
 Leu Ala Lys Phe Thr Pro Arg Thr Leu Gly Ser Ala Ser Arg Ile Ser  
 580 585 590  
 Gly Ile Ala Ser Ala Asp Ile Gln Val Leu Met Ile Ala Leu Lys Lys  
 595 600 605  
 His Ala His His  
 610

<210> 620

<211> 237

<212> PRT

<213> Chlamydia pneumoniae

<400> 620

Lys	Asn	Met	Pro	Thr	Thr	Asn	Cys	Ile	Phe	Leu	Asp	Leu	Arg	Gly	His
1				5					10					15	
Ser	Ile	Leu	His	Gln	Leu	Gln	Ile	Glu	Glu	Ala	Leu	Leu	Arg	Val	Ala
			20					25					30		
Asn	Gln	Asn	Phe	Cys	Ile	Ile	Asn	Ser	Gly	Ala	Lys	Asp	Ser	Ile	Val
		35					40					45			
Leu	Gly	Ile	Ser	Arg	Asn	Leu	Asn	Gln	Asp	Val	His	Ile	Ser	Arg	Ala
	50					55					60				
Gln	Ala	Asp	His	Ile	Pro	Ile	Ile	Arg	Arg	Tyr	Ser	Gly	Gly	Gly	Thr
65					70					75				80	
Val	Phe	Ile	Asp	Ser	Asn	Thr	Leu	Met	Val	Ser	Trp	Ile	Met	Asn	Ser
			85						90					95	
Ser	Glu	Ala	Ser	Ala	Gln	Pro	Gln	Glu	Leu	Leu	Ala	Trp	Thr	Tyr	Gly
			100					105					110		
Ile	Tyr	Ser	Pro	Leu	Leu	Pro	Asn	Thr	Phe	Ser	Ile	Arg	Glu	Asn	Asp
		115					120					125			
Tyr	Val	Leu	Gly	His	Lys	Lys	Ile	Gly	Gly	Asn	Ala	Gln	Tyr	Ile	Gln
	130					135					140				
Arg	His	Arg	Trp	Val	His	His	Thr	Thr	Phe	Leu	Trp	Asp	Ile	Asp	Leu
145					150					155				160	
Asp	Lys	Leu	Ser	Tyr	Tyr	Leu	Pro	Ile	Pro	Gln	Gln	Gln	Pro	Thr	Tyr
			165						170					175	
Arg	Asn	Gln	Arg	Ser	His	Glu	Glu	Phe	Leu	Thr	Thr	Leu	Arg	Pro	Trp
		180						185					190		
Phe	Pro	Ser	Arg	Asp	Asp	Phe	Leu	Glu	Arg	Ile	Lys	Ala	Ser	Gly	Ser
		195					200					205			
Leu	Leu	Phe	Thr	Trp	Glu	Glu	Phe	Leu	Asp	Asn	Glu	Leu	Glu	Glu	Ile
	210					215					220				
Leu	Ala	Gln	Pro	His	Arg	Lys	Ala	Thr	Thr	Val	Leu	Asn			
225					230					235					

<210> 621  
 <211> 150  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 621

Arg	Arg	Tyr	Val	Tyr	Thr	Met	Glu	Gln	Thr	Leu	Ser	Ile	Ile	Lys	Pro
1				5					10					15	
Asp	Ser	Val	Ser	Lys	Ala	His	Ile	Gly	Glu	Ile	Leu	Ser	Ile	Phe	Glu
			20					25					30		
Gln	Ser	Gly	Leu	Arg	Ile	Ala	Ala	Met	Lys	Met	Met	His	Leu	Ser	Gln
		35					40					45			
Thr	Glu	Ala	Glu	Gly	Phe	Tyr	Phe	Val	His	Arg	Glu	Arg	Pro	Phe	Phe
	50					55					60				
Gln	Glu	Leu	Val	Asp	Phe	Met	Val	Ser	Gly	Pro	Val	Val	Val	Leu	Val
65					70					75				80	
Leu	Glu	Gly	Ala	Asn	Ala	Val	Ser	Arg	Asn	Arg	Glu	Leu	Met	Gly	Ala
			85						90					95	
Thr	Asn	Pro	Ala	Glu	Ala	Ala	Ser	Gly	Thr	Ile	Arg	Ala	Lys	Phe	Gly
		100						105					110		
Glu	Ser	Ile	Gly	Val	Asn	Ala	Val	His	Gly	Ser	Asp	Thr	Leu	Glu	Asn
		115					120					125			
Ala	Ala	Val	Glu	Ile	Ala	Tyr	Phe	Phe	Ser	Lys	Ile	Glu	Val	Val	Asn
	130					135					140				
Ala	Ser	Lys	Pro	Leu	Val										
145					150										

<210> 622  
 <211> 209  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 622  
 Asp Lys Met Tyr Asp Tyr Ile Arg Gly Thr Leu Thr Tyr Val His Thr  
 1 5 10 15  
 Gly Ala Ile Val Ile Glu Cys Gln Gly Ile Gly Tyr His Ile Ala Ile  
 20 25 30  
 Thr Glu Arg Trp Ala Ile Glu Cys Ile Arg Ala Leu His Gln Asp Phe  
 35 40 45  
 Leu Val Phe Thr His Val Ile Phe Arg Glu Thr Glu His Leu Leu Tyr  
 50 55 60  
 Gly Phe His Ser Arg Glu Glu Arg Glu Cys Phe Arg Ile Leu Ile Ser  
 65 70 75 80  
 Phe Ser Gly Ile Gly Pro Lys Leu Ala Leu Ala Ile Leu Asn Ala Leu  
 85 90 95  
 Pro Leu Lys Val Leu Cys Ser Val Val Arg Ser Glu Asp Ile Arg Ala  
 100 105 110  
 Leu Ala Ser Val Ser Gly Ile Gly Lys Lys Thr Ala Glu Lys Leu Met  
 115 120 125  
 Val Glu Leu Lys Gln Lys Leu Pro Asp Leu Leu Pro Leu Asp Ser Arg  
 130 135 140  
 Val Glu Thr Ser Gln Thr His Thr Thr Ser Ser Cys Leu Glu Glu Gly  
 145 150 155 160  
 Ile Gln Ala Leu Ala Ala Leu Gly Tyr Ser Lys Ile Ala Ala Glu Arg  
 165 170 175  
 Met Ile Ala Glu Ala Ile Lys Asp Leu Pro Glu Gly Ser Ser Leu Thr  
 180 185 190  
 Asp Ile Leu Pro Ile Ala Leu Lys Lys Asn Phe Ser Gly Val Asn Lys  
 195 200 205  
 Asp

<210> 623  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 623  
 Leu Ser Arg Leu Gly Ser Ser Phe Lys Asp Asn Lys Phe Lys Val Phe  
 1 5 10 15  
 Gln Glu Ser Ile Val Ser Glu Leu Ile Ile Gly Val Asp Pro Gly Thr  
 20 25 30  
 Ile Val Ala Gly Tyr Ala Ile Ile Ala Val Glu Gln Arg Tyr Gln Leu  
 35 40 45  
 Arg Pro Tyr Ser Tyr Gly Ala Ile Arg Leu Ser Ser Asp Met Pro Leu  
 50 55 60  
 Pro Met Arg Tyr Lys Thr Leu Phe Glu Gln Leu Ser Gly Val Leu Asp  
 65 70 75 80  
 Asp Thr Gln Pro Asn Ala Met Val Leu Glu Thr Gln Phe Val Asn Lys  
 85 90 95  
 Asn Pro Gln Ser Thr Met Lys Leu Ala Met Ala Arg Gly Ile Val Leu  
 100 105 110  
 Leu Ala Ala Ala Gln Arg Asp Ile Leu Ile Phe Glu Tyr Ala Pro Asn  
 115 120 125  
 Val Ala Lys Lys Ala Val Val Gly Lys Gly His Ala Ser Lys Arg Gln  
 130 135 140  
 Val Gln Val Met Val Ser Lys Ile Leu Asn Val Pro Glu Val Leu His  
 145 150 155 160

Pro Ser Asn Glu Asp Ile Ala Asp Ala Phe Ala Leu Ala Ile Cys His  
165 170 175  
Thr His Val Ala Arg Ser Pro Leu Cys Gly Val Arg  
180 185

<210> 624  
<211> 323  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 624  
Arg Tyr Ser Val Arg Leu Leu Ser Ile Leu Lys Leu His Leu Phe Ser  
1 5 10 15  
Leu Arg Ser Ser Ser Ser Leu Ser Pro His Tyr Tyr His Ser Cys Ser  
20 25 30  
Arg Ser Met Leu His Leu Leu Cys Arg Trp Lys Asp Ala Asp Ile Met  
35 40 45  
Glu Trp Gln Gln Ile Cys Asn Ile Leu Ser Gly Val Cys Ser Arg Met  
50 55 60  
Ser Gly Lys Leu Val Ser Leu Gln Lys Glu Thr Gln Asp Ser Cys His  
65 70 75 80  
Gln Glu His Glu Arg Ile His Leu Gln Tyr Arg Glu Gln Leu Ser Ala  
85 90 95  
Leu Glu Glu Glu Tyr Arg Arg Arg Glu Glu Ala Lys Asn Gln Asp Leu  
100 105 110  
Glu Lys Leu Gln Gln Glu Asn Thr Trp Leu Gln Asn Arg Leu Ala Glu  
115 120 125  
Lys Leu Gln Gln Ile Arg His Gln Ser Asp Ile Ile Asp Glu Ile Lys  
130 135 140  
Lys Glu Leu Leu Gln Ser Val Gln Arg Thr Glu Ile Ser Glu Gly Arg  
145 150 155 160  
Arg Leu Cys Tyr Glu His Lys Ile Lys Gln Leu Glu Glu Gln Leu Gln  
165 170 175  
Arg Tyr Val Ser Gln His Gly Ala Pro Ser Ile Glu Ile Glu Glu Asp  
180 185 190  
Lys Ser Ser Ala Ala Tyr Ala Glu Ile Asn Arg Leu Lys Lys Ser Leu  
195 200 205  
Ile Asp Leu Gln Gln Glu Lys Asp Ile Tyr Ile Lys Thr Tyr His Ser  
210 215 220  
Glu Ile Ala Lys Leu Arg Glu Lys Leu Gln Arg Gln Glu Gly Ala Gln  
225 230 235 240  
Thr Ser Ser Glu Val Cys Ser Ile Glu Lys Leu Thr Glu Val Gln Thr  
245 250 255  
Asp Leu Ala Glu Lys Lys Lys Ala Ile Ala Leu Leu Gln Asp Ile Val  
260 265 270  
Glu Asp Gln Tyr Cys Gln Leu Arg Asp Leu His Lys Glu Lys Gly Met  
275 280 285  
Ala Met Pro Ser Asn Thr Lys Leu Asp His Leu Lys Gly Leu Leu Gly  
290 295 300  
Lys Glu Pro Glu Ser Glu Val Asp Val Val Phe Ser Glu Ser Lys Ser  
305 310 315 320  
Leu Gly Ser

<210> 625  
<211> 283  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 625

Ile	Lys	Gly	Tyr	Asn	Tyr	Val	Tyr	Phe	Thr	Arg	Asp	Pro	Val	Ile	Glu
1				5					10					15	
Thr	Val	Ile	Thr	Ser	Arg	Glu	Gly	Tyr	Lys	Leu	Ser	Val	Arg	Asn	Thr
			20					25					30		
Lys	His	Phe	Ser	Gln	Asp	Pro	Phe	Met	Val	Glu	Ala	Ile	Glu	Val	Ile
		35					40					45			
Ser	Leu	Gly	Asn	Ile	Cys	Phe	Phe	Arg	Asn	Cys	Asp	His	Ser	Lys	Pro
	50					55					60				
Phe	Leu	Val	Pro	Ala	Gly	Asp	Tyr	Glu	Val	Met	Glu	Val	Arg	Asp	Thr
65					70					75				80	
Lys	Ile	Asn	Leu	Lys	Ala	Val	Gly	Leu	Asp	Arg	Gly	Val	Lys	Ile	Ala
				85					90					95	
Gly	Gly	Arg	Glu	Ala	Leu	Ile	Lys	Leu	Thr	Lys	Ser	Thr	Pro	Leu	Pro
			100					105						110	
Val	Ile	Asp	Glu	Lys	Pro	Leu	Ala	Asp	Ser	Pro	Glu	Glu	Gly	Thr	Glu
		115					120					125			
Pro	Thr	Ser	Pro	Ser	Lys	Lys	Glu	Lys	Lys	Glu	Ala	Arg	Lys	Asp	Ser
					135							140			
Phe	Lys	Gly	Glu	Lys	Trp	Lys	Glu	Lys	Lys	Lys	Leu	Ser	Arg	Arg	Arg
145					150					155					160
Asn	His	Lys	Glu	Ile	Ala	Glu	Val	Thr	Gly	Ala	Ser	Gln	Glu	Ile	Leu
				165					170					175	
Asp	Thr	Val	Lys	Glu	Glu	Leu	Trp	Glu	Glu	Ser	Gln	Glu	Asn	Glu	Ile
			180					185					190		
Val	Glu	Gln	Lys	Lys	Phe	Ser	Leu	Leu	Pro	Pro	Pro	Ala	Lys	Leu	Ile
			195				200					205			
Ser	Glu	Val	Ile	Ser	Gln	Thr	Val	Val	Asp	Pro	Val	Val	Thr	Ser	Ala
		210				215					220				
Asp	Leu	Asn	Glu	Ser	Leu	Gln	Ala	Leu	Val	Arg	Glu	Ser	Ser	Asp	Leu
225					230					235					240
Ile	Asn	Ala	Leu	Leu	Ser	Ala	Asp	Asp	Ala	Ile	His	Phe	Pro	Glu	Thr
				245					250					255	
Glu	Glu	Glu	Pro	Thr	Ser	Ala	Ser	Phe	Glu	Glu	Ser	Ser	Ala	Met	Phe
			260					265					270		
Phe	Pro	Glu	Thr	Ser	Ser	Ala	Thr	Glu	Glu	Glu					
		275					280								

<210> 626  
 <211> 336  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 626

Ala	Met	Lys	Val	Val	Ile	Asn	Gly	Phe	Gly	Arg	Ile	Gly	Arg	Leu	Val
1				5					10					15	
Leu	Arg	Gln	Ile	Leu	Lys	Arg	Asn	Ser	Ser	Val	Glu	Val	Leu	Ala	Ile
			20						25				30		
Asn	Asp	Leu	Val	Pro	Gly	Asp	Ala	Leu	Thr	Tyr	Leu	Phe	Lys	Phe	Asp
		35					40					45			
Ser	Thr	His	Gly	Arg	Phe	Pro	Glu	Asp	Val	Arg	Cys	Glu	Ala	Asp	His
	50					55					60				
Leu	Ile	Val	Gly	Lys	Arg	Lys	Ile	Gln	Phe	Leu	Ser	Glu	Arg	Asn	Val
65					70					75				80	
Gln	Asn	Leu	Pro	Trp	Lys	Asp	Leu	Gly	Val	Asp	Leu	Val	Ile	Glu	Cys
				85				90						95	
Thr	Gly	Leu	Phe	Thr	Lys	Lys	Glu	Asp	Ala	Glu	Lys	His	Ile	Gln	Ala
			100					105					110		
Gly	Ala	Lys	Arg	Val	Leu	Ile	Ser	Ala	Pro	Gly	Lys	Gly	Asp	Ile	Pro
		115					120					125			

Thr	Phe	Val	Met	Gly	Val	Asn	His	Lys	Thr	Phe	Asn	Pro	Glu	Lys	Asp
130						135					140				
Phe	Val	Ile	Ser	Asn	Ala	Ser	Cys	Thr	Thr	Asn	Cys	Leu	Ala	Pro	Ile
145					150					155					160
Ala	Lys	Val	Leu	Leu	Asp	Asn	Phe	Gly	Ile	Thr	Glu	Gly	Leu	Met	Thr
				165					170						175
Thr	Val	His	Ala	Ala	Thr	Ala	Thr	Gln	Leu	Val	Val	Asp	Gly	Pro	Ser
			180					185					190		
Lys	Lys	Asp	Trp	Arg	Gly	Gly	Arg	Gly	Cys	Leu	Gln	Asn	Ile	Ile	Pro
		195					200					205			
Ala	Ser	Thr	Gly	Ala	Ala	Lys	Ala	Val	Thr	Leu	Cys	Leu	Pro	Glu	Leu
	210					215					220				
Lys	Gly	Lys	Leu	Thr	Gly	Met	Ala	Phe	Arg	Val	Pro	Ile	Glu	Asp	Val
225					230					235					240
Ser	Val	Val	Asp	Leu	Thr	Val	Arg	Leu	Asp	Lys	Ser	Thr	Thr	Tyr	Asp
			245						250						255
Asp	Ile	Cys	Lys	Ala	Met	Lys	Gln	Ala	Ser	Glu	Thr	Asp	Leu	Lys	Gly
			260					265							270
Ile	Leu	Asp	Tyr	Thr	Asp	Glu	Gln	Val	Val	Ser	Ser	Asp	Phe	Ile	Gly
		275					280					285			
Ser	Glu	Tyr	Ser	Ser	Ile	Phe	Asp	Ala	Leu	Ala	Gly	Ile	Ala	Leu	Asn
	290					295					300				
Asp	Arg	Phe	Phe	Lys	Leu	Val	Ala	Trp	Tyr	Asp	Asn	Glu	Thr	Gly	Tyr
305					310					315					320
Ala	Thr	Arg	Ile	Val	Asp	Leu	Leu	Glu	Tyr	Val	Glu	Lys	Asn	Ser	Lys
			325						330						335

<210> 627

<211> 143

<212> PRT

<213> Chlamydia pneumoniae

<400> 627

Val	Met	Gln	His	Ala	Arg	Lys	Lys	Phe	Arg	Val	Gly	Arg	Thr	Ser	Ser
1				5					10					15	
His	Asn	Arg	Cys	Met	Leu	Ala	Asn	Met	Leu	Lys	Ser	Leu	Ile	His	Tyr
			20					25					30		
Glu	Arg	Ile	Glu	Thr	Thr	Leu	Pro	Lys	Ala	Lys	Glu	Leu	Arg	Arg	His
		35					40					45			
Ala	Asp	Lys	Met	Ile	Thr	Leu	Ala	Lys	Lys	Asn	Ser	Leu	Ala	Ala	Arg
	50						55				60				
Arg	Ile	Ala	Ile	Gly	Arg	Leu	Met	Val	Arg	Tyr	Asn	Lys	Leu	Thr	Ser
65					70					75					80
Lys	Glu	Ala	Arg	Gln	Ala	Lys	Gly	Gly	Asp	Thr	Ser	Val	Tyr	Asn	Val
				85					90					95	
Asp	Arg	Leu	Val	Val	Asn	Lys	Leu	Phe	Asp	Glu	Leu	Gly	Asn	Arg	Phe
			100					105					110		
Val	Glu	Arg	Lys	Gly	Gly	Tyr	Thr	Arg	Ile	Leu	Lys	Leu	Gln	Asn	Arg
		115					120					125			
Ile	Gly	Asp	Asn	Ala	Gln	Lys	Cys	Ile	Ile	Glu	Phe	Leu	Ala	Ser	
	130					135					140				

<210> 628

<211> 392

<212> PRT

<213> Chlamydia pneumoniae

<400> 628

Trp	Leu	Pro	Ala	Lys	Lys	Lys	Ala	Gln	Ser	Val	Val	Leu	Gly	Lys	Glu
1				5					10					15	



Lys Gly Met Ser Asp Asn Ala His Asn Leu Leu Tyr Asp Lys Phe Glu  
                   20                  25                  30  
 Leu Pro Glu Ala Val Lys Met Leu Pro Val Glu Gly Leu Pro Ile Asp  
                   35                  40                  45  
 Lys His Ala Arg Phe Ile Ala Glu Pro Leu Glu Arg Gly Met Gly His  
                   50                  55                  60  
 Thr Leu Gly Asn Ala Leu Arg Arg Ala Leu Leu Ile Gly Leu Glu Ala  
   65                  70                  75                  80  
 Pro Ala Ile Ile Ser Phe Ala Met Thr Gly Val Leu His Glu Tyr Met  
                   85                  90                  95  
 Ala Ile Glu Gly Val Ile Glu Asp Val Thr Asn Ile Ile Leu Asn Leu  
                   100                  105                  110  
 Lys Gly Ala Leu Leu Lys Lys Tyr Pro Met Gln Asp Ser Ser Leu Gly  
                   115                  120                  125  
 Arg Thr Thr Gln Val Leu Lys Ala Ser Ile Ser Ile Asp Ala Ser Asp  
                   130                  135                  140  
 Leu Ala Ala Ala Asn Gly Gln Lys Glu Val Thr Leu Gln Asp Leu Leu  
   145                  150                  155                  160  
 Gln Glu Gly Asp Phe Glu Ala Val Asn Pro Asp Gln Val Ile Phe Thr  
                   165                  170                  175  
 Val Thr Gln Pro Ile Gln Leu Glu Val Val Leu Arg Ile Ala Phe Gly  
                   180                  185                  190  
 Arg Gly Tyr Thr Pro Ser Glu Arg Ile Val Leu Glu Asp Lys Gly Val  
                   195                  200                  205  
 Tyr Glu Ile Val Leu Asp Ala Ala Phe Ser Pro Val Thr Leu Val Asn  
                   210                  215                  220  
 Tyr Phe Val Glu Asp Thr Arg Val Gly Gln Asp Thr Asp Phe Asp Arg  
   225                  230                  235                  240  
 Leu Val Leu Ile Val Glu Thr Asp Gly Arg Val Thr Pro Lys Glu Ala  
                   245                  250                  255  
 Leu Ala Phe Ser Thr Gln Ile Leu Thr Lys His Phe Ser Ile Phe Glu  
                   260                  265                  270  
 Asn Met Asp Glu Lys Lys Ile Val Phe Glu Glu Ala Ile Ser Ile Glu  
                   275                  280                  285  
 Lys Glu Asn Lys Asp Asp Ile Leu His Lys Leu Ile Leu Gly Ile Asn  
   290                  295                  300  
 Glu Ile Glu Leu Ser Val Arg Ser Thr Asn Cys Leu Ser Asn Ala Asn  
   305                  310                  315                  320  
 Ile Glu Thr Ile Gly Glu Leu Val Ile Met Pro Glu Pro Arg Leu Leu  
                   325                  330                  335  
 Gln Phe Arg Asn Phe Gly Lys Lys Ser Leu Cys Glu Ile Lys Asn Lys  
                   340                  345                  350  
 Leu Lys Glu Met Lys Leu Glu Leu Gly Met Asp Leu Thr Gln Phe Gly  
                   355                  360                  365  
 Val Gly Leu Asp Asn Val Lys Glu Lys Met Lys Trp Tyr Ala Glu Lys  
                   370                  375                  380  
 Ile Arg Ala Lys Asn Thr Lys Gly  
   385                  390

<210> 629

<211> 140

<212> PRT

<213> Chlamydia pneumoniae

<400> 629

Phe Leu Ile Arg Ser Arg Val Leu Val Lys Asn Gln Ala Gln Ala Lys  
   1                  5                  10                  15  
 Lys Ser Val Lys Arg Lys Gln Leu Lys Asn Ile Pro Ser Gly Val Val  
                   20                  25                  30  
 His Val Lys Ala Thr Phe Asn Asn Thr Ile Val Ser Ile Thr Asp Pro  
                   35                  40                  45

Ala Gly Asn Val Ile Ser Trp Ala Ser Ala Gly Lys Val Gly Tyr Ser  
50 55 60  
Gly Ser Arg Lys Ser Ser Ala Phe Ala Ala Thr Val Ala Ala Gln Asp  
65 70 75 80  
Ala Ala Lys Thr Ala Met Asn Ser Gly Leu Lys Glu Val Glu Val Cys  
85 90 95  
Leu Lys Gly Thr Gly Ala Gly Arg Glu Ser Ala Val Arg Ala Leu Ile  
100 105 110  
Ser Ala Gly Leu Val Val Ser Val Ile Arg Asp Glu Thr Pro Val Pro  
115 120 125  
His Asn Gly Cys Arg Pro Arg Lys Arg Arg Arg Val  
130 135 140

<210> 630  
<211> 133  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 630  
Asp Ala Tyr Thr Ile Leu Arg Glu Ala Gln Arg Met Pro Arg Ile Ile  
1 5 10 15  
Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys Ile Ser Leu Thr Tyr  
20 25 30  
Ile Tyr Gly Ile Gly Ser Ala Arg Ser Asp Glu Ile Ile Lys Lys Leu  
35 40 45  
Lys Leu Asp Pro Glu Ala Arg Ala Ser Glu Leu Thr Glu Glu Val  
50 55 60  
Gly Arg Leu Asn Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp  
65 70 75 80  
Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg Leu Ile Ala Ile His  
85 90 95  
Ser Tyr Arg Gly Gln Arg His Arg Leu Ser Leu Pro Val Arg Gly Gln  
100 105 110  
Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly Lys Arg Lys Thr Val  
115 120 125  
Ala Gly Lys Lys Lys  
130

<210> 631  
<211> 465  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 631  
Lys Ile Arg Leu Phe Arg Pro Tyr Met Thr Thr Leu Arg Gln Phe Phe  
1 5 10 15  
Leu Ile Thr Glu Leu Arg Gln Lys Leu Phe Tyr Thr Phe Ala Leu Leu  
20 25 30  
Thr Ala Cys Arg Val Gly Val Phe Ile Pro Val Pro Gly Ile Asn Gly  
35 40 45  
Glu Leu Ala Val Ala Tyr Phe Lys Gln Leu Leu Gly Ser Gly Gln Asn  
50 55 60  
Leu Phe Gln Leu Ala Asp Ile Phe Ser Gly Gly Ala Phe Ala Gln Met  
65 70 75 80  
Thr Val Ile Ala Leu Gly Val Val Pro Tyr Ile Ser Ala Ser Ile Ile  
85 90 95  
Val Gln Leu Phe Leu Val Phe Met Pro Ala Leu Gln Arg Glu Met Arg  
100 105 110  
Glu Ser Ser Asp Gln Gly Lys Arg Arg Ile Gly Arg Leu Thr Arg Leu  
115 120 125

Phe Thr Val Ala Leu Ala Val Ile Gln Ser Leu Leu Phe Ala Lys Phe  
130 135 140  
Ala Leu Arg Met Asn Leu Thr Ile Pro Gly Ile Val Leu Pro Thr Leu  
145 150 155 160  
Leu Ser Ser Lys Leu Phe Gly Val Pro Trp Ile Phe Tyr Ile Thr Thr  
165 170 175  
Val Val Val Met Thr Thr Gly Thr Leu Leu Met Trp Ile Gly Glu  
180 185 190  
Gln Ile Ser Asp Lys Gly Ile Gly Asn Gly Ile Ser Leu Ile Ile Ala  
195 200 205  
Leu Gly Ile Leu Ser Ser Phe Pro Ser Val Leu Gly Ser Ile Val Asn  
210 215 220  
Lys Leu Asn Leu Gly Ser Gln Asp Ser Ser Asp Leu Gly Leu Ile Ser  
225 230 235 240  
Ile Leu Ile Leu Ala Leu Val Phe Val Phe Val Leu Ile Thr Thr Ile  
245 250 255  
Leu Ile Ile Glu Gly Val Arg Lys Ile Pro Val Gln Tyr Ala Arg Arg  
260 265 270  
Val Ile Gly Arg Arg Glu Val Pro Gly Gly Gly Ser Tyr Leu Pro Leu  
275 280 285  
Lys Val Asn Tyr Ala Gly Val Ile Pro Val Ile Phe Ala Ser Ser Leu  
290 295 300  
Leu Met Phe Pro Ala Thr Ile Gly Gln Phe Ile Ala Ser Glu Ser Ser  
305 310 315 320  
Trp Met Lys Arg Ile Ala Ala Leu Leu Ala Pro Gly Ser Leu Val Tyr  
325 330 335  
Ser Ile Cys Tyr Val Leu Leu Ile Ile Phe Phe Thr Tyr Phe Trp Thr  
340 345 350  
Ala Thr Gln Phe His Pro Glu Gln Ile Ala Ser Glu Met Lys Lys Asn  
355 360 365  
Asn Ala Phe Ile Pro Gly Ile Arg Gln Gly Lys Pro Thr Gln His Tyr  
370 375 380  
Leu Glu Tyr Thr Met Asn Arg Val Thr Leu Leu Gly Ala Leu Phe Leu  
385 390 395 400  
Ala Ala Ile Ala Ile Leu Pro Ser Leu Leu Gly Cys Leu Leu Arg Val  
405 410 415  
Asp Ser Asn Val Ser Tyr Phe Leu Gly Gly Thr Ala Met Leu Ile Val  
420 425 430  
Val Gly Val Val Leu Asp Thr Met Lys Gln Val Asp Ala Phe Leu Leu  
435 440 445  
Met Arg Arg Tyr Asp Ser Val Leu Lys Thr Asp Arg Thr Lys Gly Arg  
450 455 460  
His  
465

<210> 632  
<211> 144  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 632  
Met Ile Lys Leu Glu Ser Leu Phe Asp Ile Ser Glu Arg Lys Arg Arg  
1 5 10 15  
Lys Lys Leu Leu Gly Arg Gly Pro Ser Ser Gly His Gly Lys Thr Ser  
20 25 30  
Gly Arg Gly His Lys Gly Asp Gly Ser Arg Ser Gly Tyr Lys Arg Arg  
35 40 45  
Phe Gly Tyr Glu Gly Gly Gly Val Pro Leu Tyr Arg Arg Val Pro Thr  
50 55 60  
Arg Gly Phe Ser His Lys Arg Phe Asp Lys Cys Val Glu Glu Ile Thr  
65 70 75 80

Thr	Gly	Arg	Leu	Ala	Glu	Leu	Phe	Gln	Glu	Gly	Glu	Ala	Ile	Thr	Leu
			85						90				95		
Asp	Ala	Leu	Lys	Ala	Lys	Lys	Ala	Ile	Ala	Arg	Gln	Ala	Val	Arg	Val
		100						105					110		
Lys	Val	Ile	Leu	Lys	Gly	Asp	Leu	Glu	Lys	Thr	Phe	Val	Trp	Gln	Asp
		115				120						125			
Thr	Ala	Val	Val	Leu	Ser	Gln	Gly	Val	Gln	Asn	Leu	Leu	Gly	Ile	Thr
	130					135					140				

<210> 633

<211> 167

<212> PRT

<213> Chlamydia pneumoniae

<400> 633

Glu	Glu	Met	Ser	Leu	Ser	Lys	Asn	Ser	His	Lys	Glu	Asp	Gln	Leu	Glu
1			5						10				15		
Glu	Lys	Val	Leu	Val	Val	Asn	Arg	Cys	Ser	Lys	Val	Val	Lys	Gly	Gly
		20					25					30			
Arg	Lys	Phe	Ser	Phe	Ser	Ala	Leu	Ile	Leu	Val	Gly	Asp	Gly	Lys	Gly
	35					40					45				
Arg	Leu	Gly	Tyr	Gly	Phe	Ala	Lys	Ala	Asn	Glu	Leu	Thr	Asp	Ala	Ile
	50				55					60					
Arg	Lys	Gly	Gly	Glu	Ala	Ala	Lys	Lys	Asn	Leu	Met	Lys	Ile	Glu	Ala
65				70					75					80	
Leu	Glu	Asp	Gly	Ser	Ile	Pro	His	Glu	Val	Leu	Val	His	His	Asp	Gly
			85					90				95			
Ala	Gln	Leu	Leu	Leu	Lys	Pro	Ala	Lys	Pro	Gly	Thr	Gly	Ile	Val	Ala
		100					105					110			
Gly	Ser	Arg	Ile	Arg	Leu	Ile	Leu	Glu	Met	Ala	Gly	Ile	Lys	Asp	Ile
	115					120					125				
Val	Ala	Lys	Ser	Phe	Gly	Ser	Asn	Asn	Pro	Met	Asn	Gln	Val	Lys	Ala
	130				135					140					
Ala	Phe	Lys	Ala	Leu	Thr	Gly	Leu	Ser	Pro	Arg	Lys	Asp	Leu	Leu	Arg
145				150						155					160
Arg	Gly	Ala	Ala	Ile	Asn	Asp									
			165												

<210> 634

<211> 176

<212> PRT

<213> Chlamydia pneumoniae

<400> 634

Lys	Gly	Leu	Ile	Ser	Ser	Trp	Leu	Val	Asn	Leu	Leu	Gln	Val	Phe	Ala
1			5						10				15		
Pro	Asn	Val	Leu	Leu	Asn	Leu	Ile	Lys	Val	Arg	Glu	Phe	Val	Met	Lys
		20						25				30			
Met	Asn	Met	Ser	Val	Val	Lys	Leu	Val	Lys	Leu	Arg	Lys	Gln	Ala	Lys
	35					40					45				
Asn	Arg	Ser	Arg	Val	Met	Glu	Ser	Ser	Leu	Cys	Lys	Lys	Ser	Leu	Met
	50				55					60					
Lys	Arg	Arg	Arg	Ala	Leu	Arg	Val	Arg	Lys	Val	Leu	Lys	Gly	Ser	Pro
65				70					75					80	
Thr	Lys	Pro	Arg	Leu	Ser	Val	Val	Lys	Thr	Asn	Lys	His	Ile	Tyr	Val
			85					90				95			
Gln	Leu	Ile	Asp	Asp	Ser	Ile	Gly	Lys	Thr	Leu	Ala	Ser	Val	Ser	Thr
		100					105					110			
Leu	Ser	Lys	Leu	Asn	Lys	Ser	Gln	Gly	Leu	Thr	Lys	Lys	Asn	Gln	Glu
	115					120						125			

Val Ala Lys Val Leu Gly Thr Gln Ile Ala Glu Leu Gly Lys Asn Leu  
 130 135 140  
 Gln Leu Asp Arg Val Val Phe Asp Arg Gly Pro Phe Lys Tyr His Gly  
 145 150 155 160  
 Ile Val Ser Met Val Ala Asp Gly Ala Arg Glu Gly Gly Leu Gln Phe  
 165 170 175

<210> 635  
 <211> 184  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 635  
 Ser Met Ser Arg Lys Ala Arg Glu Pro Ile Leu Leu Pro Gln Gly Val  
 1 5 10 15  
 Glu Val Ser Ile Gln Asp Asp Lys Ile Ile Val Lys Gly Pro Lys Gly  
 20 25 30  
 Ser Leu Thr Gln Lys Ser Val Lys Glu Val Glu Ile Thr Leu Lys Asp  
 35 40 45  
 Asn Ser Ile Phe Val His Ala Pro His Val Val Asp Arg Pro Ser  
 50 55 60  
 Cys Met Gln Gly Leu Tyr Trp Ala Leu Ile Ser Asn Met Val Gln Gly  
 65 70 75 80  
 Val His Leu Gly Phe Glu Lys Arg Leu Glu Met Ile Gly Val Gly Phe  
 85 90 95  
 Arg Ala Ser Val Gln Gly Ala Phe Leu Asp Leu Ser Ile Gly Val Ser  
 100 105 110  
 His Pro Thr Lys Ile Pro Ile Pro Ser Thr Leu Gln Val Ser Val Glu  
 115 120 125  
 Lys Asn Thr Leu Ile Ser Val Lys Gly Leu Asp Lys Gln Leu Val Gly  
 130 135 140  
 Glu Phe Ala Ala Ser Ile Arg Ala Lys Arg Pro Pro Glu Pro Tyr Lys  
 145 150 155 160  
 Gly Lys Gly Ile Arg Tyr Glu Asn Glu Tyr Val Arg Arg Lys Ala Gly  
 165 170 175  
 Lys Ala Ala Lys Thr Gly Lys Lys  
 180

<210> 636  
 <211> 143  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 636  
 Glu Ser Ser Ile Lys Arg Lys Arg Ile Tyr Met Gly Met Thr Ser Asp  
 1 5 10 15  
 Ser Ile Ala Asp Leu Leu Thr Arg Ile Arg Asn Ala Leu Met Ala Glu  
 20 25 30  
 His Leu Tyr Val Asp Val Glu His Ser Lys Met Arg Glu Ala Ile Val  
 35 40 45  
 Lys Ile Leu Lys His Lys Gly Phe Val Ala His Tyr Leu Val Lys Glu  
 50 55 60  
 Glu Asn Arg Lys Arg Ala Met Arg Val Phe Leu Gln Tyr Ser Asp Asp  
 65 70 75 80  
 Arg Lys Pro Val Ile His Gln Leu Lys Arg Val Ser Lys Pro Ser Arg  
 85 90 95  
 Arg Val Tyr Val Ser Ala Ala Lys Ile Pro Tyr Val Phe Gly Asn Met  
 100 105 110  
 Gly Ile Ser Val Leu Ser Thr Ser Gln Gly Val Met Glu Gly Ser Leu  
 115 120 125

Ala Arg Ser Lys Asn Ile Gly Gly Glu Leu Leu Cys Leu Val Trp  
 130 135 140

<210> 637  
 <211> 186  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 637  
 Gly Glu Arg Lys Ala Asn Met Ser Arg Leu Lys Lys Phe Tyr Thr Glu  
 1 5 10 15  
 Glu Ile Arg Lys Ser Leu Phe Glu Lys Phe Gly Tyr Ala Asn Lys Met  
 20 25 30  
 Gln Ile Pro Val Leu Lys Lys Ile Val Leu Ser Met Gly Leu Ala Glu  
 35 40 45  
 Ala Ala Lys Asp Lys Asn Leu Phe Gln Ala His Leu Glu Glu Leu Thr  
 50 55 60  
 Met Ile Ser Gly Gln Lys Pro Leu Val Thr Lys Ala Arg Asn Ser Ile  
 65 70 75 80  
 Ala Gly Phe Lys Leu Arg Glu Gly Gln Gly Ile Gly Ala Lys Val Thr  
 85 90 95  
 Leu Arg Gly Ile Arg Met Tyr Asp Phe Met Asp Arg Phe Cys Asn Ile  
 100 105 110  
 Val Ser Pro Arg Ile Arg Asp Phe Arg Gly Phe Ser Asn Lys Gly Asp  
 115 120 125  
 Gly Arg Gly Cys Tyr Ser Val Gly Leu Asp Asp Gln Gln Ile Phe Pro  
 130 135 140  
 Glu Ile Asn Leu Asp Arg Val Lys Arg Thr Gln Gly Leu Asn Ile Thr  
 145 150 155 160  
 Trp Val Thr Thr Ala Gln Thr Asp Asp Glu Cys Thr Thr Leu Leu Glu  
 165 170 175  
 Leu Met Gly Leu Arg Phe Lys Lys Ala Gln  
 180 185

<210> 638  
 <211> 117  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 638  
 Phe Lys Glu Lys Glu Val Met Lys Lys Gln Asn Ile Arg Val Gly Asp  
 1 5 10 15  
 Lys Val Phe Ile Leu Ala Gly Asn Asp Lys Gly Lys Glu Gly Lys Val  
 20 25 30  
 Leu Ser Leu Thr Glu Asp Lys Val Val Val Glu Gly Val Asn Val Arg  
 35 40 45  
 Ile Lys Asn Ile Lys Arg Ser Gln Gln Asn Pro Lys Gly Lys Arg Ile  
 50 55 60  
 Ser Ile Glu Ala Pro Ile His Ile Ser Asn Val Arg Leu Thr Ile Ala  
 65 70 75 80  
 Gly Glu Pro Ala Lys Leu Ser Val Lys Val Thr Glu Gln Gly Arg Glu  
 85 90 95  
 Leu Trp Gln Arg Arg Pro Asp Gly Thr Ser Gln Leu Tyr Arg Leu Val  
 100 105 110  
 Arg Gly Lys Lys Gly  
 115

<210> 639  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 639  
 Ile Glu Ile Met Ile Gln Gln Glu Ser Gln Leu Lys Val Ala Asp Asn  
 1 5 10 15  
 Thr Gly Ala Lys Lys Val Lys Cys Phe Lys Val Leu Gly Gly Ser Arg  
 20 25 30  
 Arg Arg Tyr Ala Thr Val Gly Asp Val Ile Val Cys Ser Val Arg Asp  
 35 40 45  
 Val Glu Pro Asn Ser Ser Ile Lys Lys Gly Asp Val Ile Lys Ala Val  
 50 55 60  
 Ile Val Arg Thr Arg Arg His Ile Thr Arg Lys Asp Gly Ser Thr Leu  
 65 70 75 80  
 Lys Phe Asp Thr Asn Ser Cys Val Ile Ile Asp Asp Lys Gly Asn Pro  
 85 90 95  
 Lys Gly Thr Arg Ile Phe Gly Pro Val Ala Arg Glu Ile Arg Asp Arg  
 100 105 110  
 Gly Phe Ile Lys Ile Ser Ser Leu Ala Pro Glu Val Ile  
 115 120 125

<210> 640  
 <211> 94  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 640  
 Asn Lys Lys Glu Lys Val Lys Ser Met Ala Ser Glu Pro Arg Gly Ser  
 1 5 10 15  
 Arg Lys Val Lys Ile Gly Val Val Val Ser Ala Lys Met Glu Lys Thr  
 20 25 30  
 Val Val Val Arg Val Glu Arg Ile Phe Ser His Pro Gln Tyr Leu Lys  
 35 40 45  
 Val Val Arg Ser Ser Lys Lys Tyr Tyr Ala His Thr Glu Leu Lys Val  
 50 55 60  
 Ser Glu Gly Asp Lys Val Lys Ile Gln Glu Thr Arg Pro Leu Ser Lys  
 65 70 75 80  
 Leu Lys Arg Trp Arg Val Ile Glu His Val Gly Val Val Ser  
 85 90

<210> 641  
 <211> 79  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 641  
 Ala Ser Gly Lys Gly Ile Asn Met Ala Ala Lys Lys Asp Leu Leu Thr  
 1 5 10 15  
 Gln Leu Arg Gly Lys Ser Asp Asp Asp Leu Asp Ala Tyr Val His Glu  
 20 25 30  
 Asn Lys Lys Ala Leu Phe Ala Leu Arg Ala Glu Asn Leu Leu Gln Asn  
 35 40 45  
 Lys Val Val Lys Val His Met Phe Ser Thr His Lys Lys Asn Ile Ala  
 50 55 60  
 Arg Ala Leu Thr Val Lys Gln Glu Arg Lys Gly Lys Val His Gly  
 65 70 75

<210> 642  
 <211> 140  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 642  
 Ile Ile Met Leu Met Pro Lys Arg Thr Lys Phe Arg Lys Gln Gln Lys  
 1 5 10 15  
 Gly Gln Phe Ala Gly Leu Ser Lys Gly Ala Thr Phe Val Asp Phe Gly  
 20 25 30  
 Glu Tyr Ala Met Gln Thr Leu Glu Arg Gly Trp Val Thr Ser Arg Gln  
 35 40 45  
 Ile Glu Ala Cys Arg Val Ala Ile Asn Arg Tyr Leu Lys Arg Arg Gly  
 50 55 60  
 Lys Val Trp Ile Arg Ile Phe Pro Asp Lys Ser Val Thr Lys Lys Pro  
 65 70 75 80  
 Ala Glu Thr Arg Met Gly Lys Gly Lys Gly Ala Pro Asp His Trp Val  
 85 90 95  
 Ala Val Val Arg Pro Gly Arg Ile Leu Phe Glu Val Ala Asn Val Ser  
 100 105 110  
 Lys Glu Asp Ala Gln Asp Ala Leu Arg Arg Ala Ala Ala Lys Leu Gly  
 115 120 125  
 Ile Lys Thr Arg Phe Val Lys Arg Val Glu Arg Val  
 130 135 140

<210> 643  
 <211> 228  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 643  
 Lys Gly Arg Arg Ile Met Gly Gln Lys Gly Cys Pro Ile Gly Phe Arg  
 1 5 10 15  
 Thr Gly Val Thr Lys Arg Trp Arg Ser Leu Trp Tyr Gly Asn Lys Gln  
 20 25 30  
 Glu Phe Gly Lys Phe Leu Ile Glu Asp Val Arg Ile Arg Gln Phe Leu  
 35 40 45  
 Arg Lys Lys Pro Ser Cys Gln Gly Ala Ala Gly Phe Val Val Arg Arg  
 50 55 60  
 Met Ser Gly Lys Ile Glu Val Thr Ile Gln Thr Ala Arg Pro Gly Leu  
 65 70 75 80  
 Val Ile Gly Lys Lys Gly Ala Glu Val Asp Leu Leu Lys Glu Glu Leu  
 85 90 95  
 Arg Ala Leu Thr Gly Lys Glu Val Trp Leu Glu Ile Ala Glu Ile Lys  
 100 105 110  
 Arg Pro Glu Leu Asn Ala Lys Leu Val Ala Asp Asn Ile Ala Arg Gln  
 115 120 125  
 Ile Glu Arg Arg Val Ser Phe Arg Arg Ala Met Lys Lys Ala Met Gln  
 130 135 140  
 Ser Val Met Asp Ala Gly Ala Val Gly Val Lys Ile Gln Val Ser Gly  
 145 150 155 160  
 Arg Leu Ala Gly Ala Glu Ile Ala Arg Ser Glu Trp Tyr Lys Asn Gly  
 165 170 175  
 Arg Val Pro Leu His Thr Leu Arg Ala Asp Ile Asp Tyr Ala Thr Ala  
 180 185 190  
 Cys Ala Glu Thr Thr Tyr Gly Ile Ile Gly Ile Lys Val Trp Ile Asn  
 195 200 205  
 Leu Gly Glu Asn Ser Ser Ser Thr Thr Pro Asn Asn Pro Ala Ala Pro  
 210 215 220  
 Ser Ala Ala Ala  
 225

<210> 644  
 <211> 115  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 644  
 Arg Arg His Ser Met Phe Lys Ala Thr Ala Arg Tyr Ile Arg Val Gln  
 1 5 10 15  
 Pro Arg Lys Ala Arg Leu Ala Ala Gly Leu Met Arg Asn Leu Ser Val  
 20 25 30  
 Gln Glu Ala Glu Glu Gln Leu Gly Phe Ser Gln Leu Lys Ala Gly Arg  
 35 40 45  
 Cys Leu Lys Lys Val Leu Asn Ser Ala Val Ala Asn Ala Glu Leu His  
 50 55 60  
 Glu Asn Ile Lys Arg Glu Asn Leu Ser Val Thr Glu Val Arg Val Asp  
 65 70 75 80  
 Ala Gly Pro Val Tyr Lys Arg Ser Lys Ser Lys Ser Arg Gly Gly Arg  
 85 90 95  
 Ser Pro Ile Leu Lys Arg Thr Ser His Leu Thr Val Ile Val Gly Glu  
 100 105 110  
 Lys Glu Arg  
 115

<210> 645  
 <211> 92  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 645  
 Glu Ile Arg Ile Met Gly Arg Ser Leu Arg Lys Gly Pro Phe Val Asp  
 1 5 10 15  
 His His Leu Leu Lys Lys Val Arg Ala Met Asn Ile Glu Glu Lys Lys  
 20 25 30  
 Thr Pro Ile Lys Thr Trp Ser Arg Ser Met Ile Thr Pro Glu Met  
 35 40 45  
 Ile Gly His Thr Phe Glu Val His Asn Gly Lys Lys Phe Leu Thr Val  
 50 55 60  
 Phe Val Ser Glu Thr Met Val Gly His Lys Leu Gly Glu Phe Ser Pro  
 65 70 75 80  
 Thr Arg Ile Phe Lys Ser His Pro Val Lys Lys Gly  
 85 90

<210> 646  
 <211> 291  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 646  
 Phe Ile Arg Glu Ile Asn Ser Met Phe Lys Lys Phe Lys Pro Val Thr  
 1 5 10 15  
 Pro Gly Thr Arg Gln Leu Val Leu Pro Ala Phe Asp Glu Leu Thr Thr  
 20 25 30  
 Arg Gly Glu Leu Arg Gly Thr Lys Ser Lys Arg Ser Leu Arg Pro Asn  
 35 40 45  
 Lys Lys Leu Ser Phe Phe Lys Lys Ser Ser Gly Gly Arg Asp Asn Leu  
 50 55 60  
 Gly His Ile Ser Cys Arg His Arg Gly Gly Gly Ala Lys Gln Leu Tyr  
 65 70 75 80  
 Arg Val Val Asp Phe Lys Arg Asn Lys Asp Gly Ile Thr Ala Lys Val  
 85 90 95  
 Val Thr Val Glu Tyr Asp Pro Asn Arg Ser Ala Tyr Ile Ala Leu Leu  
 100 105 110  
 Ser Tyr Glu Asp Gly Glu Lys Arg Tyr Ile Leu Ala Pro Lys Gly Ile  
 115 120 125  
 Gln Arg Gly Asp Val Val Val Ser Gly Glu Gly Ser Pro Phe Lys Pro  
 130 135 140

Gly Cys Cys Met Thr Leu Lys Ser Ile Pro Leu Gly Leu Ser Val His  
 145 150 155 160  
 Asn Ile Glu Met Arg Pro Ser Ser Gly Gly Lys Leu Val Arg Ser Ala  
 165 170 175  
 Gly Leu Ala Ala Gln Val Ile Ala Lys Ser Pro Gly Tyr Val Thr Leu  
 180 185 190  
 Lys Met Pro Ser Gly Glu Phe Arg Met Leu Asn Glu Gly Cys Arg Ala  
 195 200 205  
 Thr Ile Gly Glu Val Ser Asn Ala Asp His Asn Leu Arg Val Asp Gly  
 210 215 220  
 Lys Ala Gly Arg Arg Arg Trp Met Gly Val Arg Pro Thr Val Arg Gly  
 225 230 235 240  
 Thr Ala Met Asn Pro Val Asp His Pro His Gly Gly Gly Glu Gly Arg  
 245 250 255  
 His Asn Gly Tyr Ile Pro Arg Thr Pro Trp Gly Lys Val Thr Lys Gly  
 260 265 270  
 Leu Lys Thr Arg Asp Lys Asn Lys Ser Asn Lys Trp Ile Val Lys Asp  
 275 280 285  
 Arg Arg Lys  
 290

<210> 647  
 <211> 112  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 647  
 Asp Met Lys Asp Pro Tyr Asp Val Ile Lys Arg His Tyr Val Thr Glu  
 1 5 10 15  
 Lys Ala Lys Met Leu Glu His Leu Ser Ala Gly Thr Gly Glu Gly Lys  
 20 25 30  
 Lys Lys Gly Ser Phe Cys Lys Asp Pro Lys Phe Val Phe Ile Val Ser  
 35 40 45  
 His Asp Ala Thr Lys Pro Leu Ile Ala Gln Ala Leu Glu Ala Ile Tyr  
 50 55 60  
 Val Asp Lys Asn Val Lys Val Lys Ser Val Asn Thr Ile Asn Val Lys  
 65 70 75 80  
 Pro Gln Pro Ala Arg Met Phe Arg Gly Arg Arg Lys Gly Lys Thr Ser  
 85 90 95  
 Gly Phe Lys Lys Ala Ile Val Thr Phe Tyr Gln Gly His Ser Val Gly  
 100 105 110

<210> 648  
 <211> 229  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 648  
 Tyr Arg Glu Asp Leu Met Val Leu Leu Ser Lys Phe Asp Phe Ser Gly  
 1 5 10 15  
 Asn Lys Ile Gly Glu Val Glu Val Ala Asp Ser Leu Phe Ala Asp Glu  
 20 25 30  
 Gly Asp Gly Leu Gln Leu Ile Lys Asp Tyr Ile Val Ala Ile Arg Ala  
 35 40 45  
 Asn Lys Arg Gln Trp Ser Ala Cys Thr Arg Asn Arg Ser Glu Val Ser  
 50 55 60  
 His Ser Thr Lys Lys Pro Phe Lys Gln Lys Gly Thr Gly Asn Ala Arg  
 65 70 75 80  
 Gln Gly Cys Leu Ala Ser Pro Gln Phe Arg Gly Gly Gly Ile Val Phe  
 85 90 95

Gly Pro Lys Pro Lys Phe Asn Gln His Val Arg Ile Asn Arg Lys Glu  
                   100                  105                  110  
 Arg Lys Ala Ala Ile Arg Leu Leu Leu Ala Gln Lys Ile Gln Thr Asn  
                   115                  120                  125  
 Lys Leu Thr Val Val Asp Asp Thr Val Phe Val Asp Ala Leu Thr Ala  
                   130                  135                  140  
 Pro Lys Thr Gln Ser Ala Leu Arg Phe Leu Lys Asp Cys Asn Val Glu  
 145                  150                  155                  160  
 Cys Arg Ser Ile Leu Phe Ile Asp His Leu Asp His Val Glu Lys Asn  
                   165                  170                  175  
 Glu Asn Leu Arg Leu Ser Leu Arg Asn Leu Thr Ala Val Lys Gly Phe  
                   180                  185                  190  
 Val Tyr Gly Ile Asn Ile Asn Gly Tyr Asp Leu Ala Ser Ala His Asn  
                   195                  200                  205  
 Ile Val Ile Ser Lys Lys Ala Leu Gln Glu Leu Val Glu Arg Leu Val  
                   210                  215                  220  
 Ser Glu Thr Lys Asp  
 225

<210> 649  
 <211> 278  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 649  
 Tyr Leu Glu Tyr Phe Ser Tyr Cys Lys Asn Leu Pro Pro Leu Ile Thr  
   1                  5                  10                  15  
 Cys Pro Phe Ile Phe Leu Arg Glu Asn Phe Leu Phe Phe Leu Glu Asn  
                   20                  25                  30  
 Ser Ile Ser Lys Ile Leu Ser Arg Phe Val Ser Leu Phe Leu Gln Glu  
                   35                  40                  45  
 Glu Ser Lys Ser Leu Leu Leu Met Asp Lys Phe Met Arg Ser His Ile  
                   50                  55                  60  
 Ser Val Met Gly Lys Lys Glu Gly Met Ile His Ile Phe Asp Lys Asp  
 65                  70                  75                  80  
 Gly Ser Leu Val Ala Cys Ser Val Ile Arg Val Glu Pro Asn Val Val  
                   85                  90                  95  
 Thr Gln Ile Lys Thr Lys Glu Ser Asp Gly Tyr Phe Ser Leu Gln Ile  
                   100                  105                  110  
 Gly Ala Glu Glu Met Asn Ala Pro Ala His Thr Ile Thr Lys Arg Val  
                   115                  120                  125  
 Ser Lys Pro Lys Leu Gly His Leu Arg Lys Ala Gly Gly Arg Val Phe  
 130                  135                  140  
 Arg Phe Leu Lys Glu Val Arg Gly Ser Glu Glu Ala Leu Asn Gly Val  
 145                  150                  155                  160  
 Ser Leu Gly Asp Ala Phe Gly Leu Glu Val Phe Glu Asp Val Ser Ser  
                   165                  170                  175  
 Val Asp Val Arg Gly Ile Ser Lys Gly Lys Gly Phe Gln Gly Val Met  
                   180                  185                  190  
 Lys Lys Phe Gly Phe Arg Gly Gly Pro Gly Ser His Gly Ser Gly Phe  
                   195                  200                  205  
 His Arg His Ala Gly Ser Ile Gly Met Arg Ser Thr Pro Gly Arg Cys  
                   210                  215                  220  
 Phe Pro Gly Ser Lys Arg Pro Ser His Met Gly Ala Glu Asn Val Thr  
 225                  230                  235                  240  
 Val Lys Asn Leu Glu Val Ile Lys Val Asp Leu Glu Lys Lys Val Leu  
                   245                  250                  255  
 Leu Val Lys Gly Ala Ile Pro Gly Ala Arg Gly Ser Ile Val Ile Val  
                   260                  265                  270  
 Lys His Ser Ser Arg Thr  
                   275

<210> 650  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 650  
 Phe Phe Phe Lys Lys Pro Cys Lys Glu Val Lys Met Ala Thr Asn Ala  
 1 5 10 15  
 Ile Arg Ser Ala Gly Ser Ala Ala Ser Lys Met Leu Leu Pro Val Ala  
 20 25 30  
 Lys Glu Pro Ala Ala Val Ser Ser Phe Ala Gln Lys Gly Ile Tyr Cys  
 35 40 45  
 Ile Gln Gln Phe Phe Thr Asn Pro Gly Asn Lys Leu Ala Lys Phe Val  
 50 55 60  
 Gly Ala Thr Lys Ser Leu Asp Lys Cys Phe Lys Leu Ser Lys Ala Val  
 65 70 75 80  
 Ser Asp Cys Val Val Gly Ser Leu Glu Glu Ala Gly Cys Thr Gly Asp  
 85 90 95  
 Ala Leu Thr Ser Ala Arg Asn Ala Gln Gly Met Leu Lys Thr Thr Arg  
 100 105 110  
 Glu Val Val Ala Leu Ala Asn Val Leu Asn Gly Ala Val Pro Ser Ile  
 115 120 125  
 Val Asn Ser Thr Gln Arg Cys Tyr Gln Tyr Thr Arg Gln Ala Phe Glu  
 130 135 140  
 Leu Gly Ser Lys Thr Lys Glu Arg Lys Thr Pro Gly Glu Tyr Ser Lys  
 145 150 155 160  
 Met Leu Leu Thr Arg Gly Asp Tyr Leu Leu Ala Ala Ser Arg Glu Ala  
 165 170 175  
 Cys Thr Ala Val Gly Ala Thr Thr Tyr Ser Ala Thr Phe Gly Val Leu  
 180 185 190  
 Arg Pro Leu Met Leu Ile Asn Lys Leu Thr Ala Lys Pro Phe Leu Asp  
 195 200 205  
 Lys Ala Thr Val Gly Asn Phe Gly Thr Ala Val Ala Gly Ile Met Thr  
 210 215 220  
 Ile Asn His Met Ala Gly Val Ala Gly Ala Val Gly Gly Ile Ala Leu  
 225 230 235 240  
 Glu Gln Lys Leu Phe Lys Arg Ala Lys Glu Ser Leu Tyr Asn Glu Arg  
 245 250 255  
 Cys Ala Leu Glu Asn Gln Gln Ser Gln Leu Ser Gly Asp Val Ile Leu  
 260 265 270  
 Ser Ala Glu Arg Ala Leu Arg Lys Glu His Val Ala Thr Leu Lys Arg  
 275 280 285  
 Asn Val Leu Thr Leu Leu Glu Lys Ala Leu Glu Leu Val Val Asp Gly  
 290 295 300  
 Val Lys Leu Ile Pro Leu Pro Ile Thr Val Ala Cys Ser Ala Ala Ile  
 305 310 315 320  
 Ser Gly Ala Leu Thr Ala Ala Ser Ala Gly Ile Gly Leu Tyr Ser Ile  
 325 330 335  
 Trp Gln Lys Thr Lys Ser Gly Lys  
 340

<210> 651  
 <211> 321  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 651  
 Leu Asn Leu Lys Val Val Tyr Phe Gly Thr Pro Thr Phe Ala Ala Thr  
 1 5 10 15  
 Val Leu Gln Asp Leu Leu His His Lys Ile Gln Ile Thr Ala Val Val  
 20 25 30

Thr Arg Val Asp Lys Pro Gln Lys Arg Ser Ala Gln Leu Ile Pro Ser  
 35 40 45  
 Pro Val Lys Thr Ile Ala Leu Thr His Gly Leu Pro Leu Leu Gln Pro  
 50 55 60  
 Ser Lys Ala Ser Asp Pro Gln Phe Ile Glu Glu Leu Arg Ala Phe Asn  
 65 70 75 80  
 Ala Asp Val Phe Ile Val Val Ala Tyr Gly Ala Ile Leu Arg Gln Ile  
 85 90 95  
 Val Leu Asp Ile Pro Arg Tyr Gly Cys Tyr Asn Leu His Ala Gly Leu  
 100 105 110  
 Leu Pro Ala Tyr Arg Gly Ala Ala Pro Ile Gln Arg Cys Ile Met Glu  
 115 120 125  
 Gly Ala Thr Glu Ser Gly Asn Thr Val Ile Arg Met Asp Ala Gly Met  
 130 135 140  
 Asp Thr Gly Asp Met Ala Asn Ile Thr Arg Val Pro Ile Gly Pro Asp  
 145 150 155 160  
 Met Thr Ser Gly Glu Leu Ala Asp Ala Leu Ala Ser Gln Gly Ala Glu  
 165 170 175  
 Val Leu Ile Lys Thr Leu Gln Gln Ile Glu Ser Gly Gln Leu Gln Leu  
 180 185 190  
 Val Ser Gln Asp Ala Ala Leu Ala Thr Ile Ala Pro Lys Leu Ser Lys  
 195 200 205  
 Glu Glu Gly Gln Val Pro Trp Asp Lys Pro Ala Lys Glu Ala Tyr Ala  
 210 215 220  
 His Ile Arg Gly Val Thr Pro Ala Pro Gly Ala Trp Thr Leu Phe Ser  
 225 230 235 240  
 Phe Ser Glu Lys Ala Pro Lys Arg Leu Met Ile Arg Lys Ala Ser Leu  
 245 250 255  
 Leu Ala Glu Ala Gly Arg Tyr Gly Ala Pro Gly Thr Val Val Thr  
 260 265 270  
 Asp Arg Gln Glu Leu Ala Ile Ala Cys Ser Glu Gly Ala Ile Cys Leu  
 275 280 285  
 His Glu Val Gln Val Glu Gly Lys Gly Ser Thr Asn Ser Lys Ser Phe  
 290 295 300  
 Leu Asn Gly Tyr Pro Ala Lys Lys Leu Lys Ile Val Phe Thr Leu Asn  
 305 310 315 320  
 Asn

<210> 652  
 <211> 283  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 652  
 Ser Arg Arg Asn Met Ala Ser Ile His Pro Thr Ala Ile Ile Glu Pro  
 1 5 10 15  
 Gly Ala Lys Ile Gly Lys Asp Val Val Ile Glu Pro Tyr Val Val Ile  
 20 25 30  
 Lys Ala Thr Val Thr Leu Cys Asp Asn Val Val Val Lys Ser Tyr Ala  
 35 40 45  
 Tyr Ile Asp Gly Asn Thr Thr Ile Gly Lys Gly Thr Thr Ile Trp Pro  
 50 55 60  
 Ser Ala Met Ile Gly Asn Lys Pro Gln Asp Leu Lys Tyr Gln Gly Glu  
 65 70 75 80  
 Lys Thr Tyr Val Thr Ile Gly Glu Asn Cys Glu Ile Arg Glu Phe Ala  
 85 90 95  
 Ile Ile Thr Ser Ser Thr Phe Glu Gly Thr Thr Val Ser Ile Gly Asn  
 100 105 110  
 Asn Cys Leu Ile Met Pro Trp Ala His Val Ala His Asn Cys Thr Ile  
 115 120 125

Gly Asn Asn Val Val Leu Ser Asn His Ala Gln Leu Ala Gly His Val  
 130 135 140  
 Gln Val Gly Asp Tyr Ala Ile Leu Gly Gly Met Val Gly Val His Gln  
 145 150 155 160  
 Phe Val Arg Ile Gly Ala His Ala Met Val Gly Ala Leu Ser Gly Ile  
 165 170 175  
 Arg Arg Asp Val Pro Pro Tyr Thr Ile Gly Ser Gly Asn Pro Tyr Gln  
 180 185 190  
 Leu Ala Gly Ile Asn Lys Val Gly Leu Gln Arg Arg Gln Val Pro Phe  
 195 200 205  
 Ala Thr Arg Leu Ala Leu Ile Lys Ala Phe Lys Lys Ile Tyr Arg Ala  
 210 215 220  
 Asp Gly Cys Phe Phe Glu Ser Leu Glu Glu Thr Leu Glu Glu Tyr Gly  
 225 230 235 240  
 Asp Ile Pro Glu Val Lys Asn Phe Ile Glu Phe Cys Gln Ser Pro Ser  
 245 250 255  
 Lys Arg Gly Ile Glu Arg Ser Ile Asp Lys Gln Ala Leu Glu Glu Glu  
 260 265 270  
 Ser Ala Asp Lys Glu Gly Val Leu Ile Glu Ser  
 275 280

<210> 653  
 <211> 153  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 653  
 Met Asn Gln Pro Ser Val Ile Lys Leu Arg Glu Leu Leu Asp Leu Leu  
 1 5 10 15  
 Pro His Arg Tyr Pro Phe Leu Leu Val Asp Lys Val Leu Ser Tyr Asp  
 20 25 30  
 Ile Glu Ala Arg Ser Ile Thr Ala Gln Lys Asn Val Thr Ile Asn Glu  
 35 40 45  
 Pro Phe Phe Met Gly His Phe Pro Asn Ala Pro Ile Met Pro Gly Val  
 50 55 60  
 Leu Ile Leu Glu Ala Leu Ala Gln Ala Ala Gly Val Leu Ile Gly Leu  
 65 70 75 80  
 Val Leu Glu Asn Asp Arg Asn Lys Arg Ile Ala Leu Phe Leu Gly Ile  
 85 90 95  
 Gln Lys Ala Lys Phe Arg Gln Ala Val Arg Pro Gly Asp Val Leu Thr  
 100 105 110  
 Leu Gln Ala Asp Phe Ser Leu Ile Ser Ser Lys Gly Gly Lys Ala Trp  
 115 120 125  
 Ala Gln Ala Arg Val Asp Ser Gln Leu Val Thr Glu Ala Glu Leu Ser  
 130 135 140  
 Phe Ala Leu Val Asp Lys Glu Ser Ile  
 145 150

<210> 654  
 <211> 297  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 654  
 Lys Arg Asn Ser Ile Ile Tyr Gly Asp Ser Leu Ser Gly Phe Tyr Met  
 1 5 10 15  
 Leu Glu Arg Thr Gln Arg Thr Leu Lys Arg Glu Val Arg Tyr Ser Gly  
 20 25 30  
 Val Gly Ile His Leu Gly Lys Ser Ser Thr Leu His Leu Gln Pro Ala  
 35 40 45

Gln Thr Asn Thr Gly Ile Val Phe Gln Arg Gln Ser Ala Ser Gly Asn  
 50 55 60  
 Tyr Glu Asn Val Pro Ala Leu Leu Asp His Val Tyr Thr Thr Gly Arg  
 65 70 75 80  
 Ser Thr Thr Leu Ser Arg Gly Ser Ala Val Ile Ala Thr Val Glu His  
 85 90 95  
 Leu Met Ala Ala Leu Arg Ser Asn Asn Ile Asp Asn Leu Ile Ile Gln  
 100 105 110  
 Cys Ser Gly Glu Glu Ile Pro Ile Gly Asp Gly Ser Ser Asn Val Phe  
 115 120 125  
 Val Glu Leu Ile Asp Gln Ala Gly Ile Cys Glu Gln Glu Asp Lys Val  
 130 135 140  
 Ser Ile Ala Arg Leu Thr Arg Pro Val Tyr Tyr Gln His Gln Asp Ile  
 145 150 155 160  
 Phe Leu Ala Ala Phe Pro Ser Asp Glu Leu Lys Ile Ser Tyr Thr Leu  
 165 170 175  
 His Tyr Pro Gln Ser Ser Thr Ile Gly Thr Gln Tyr Lys Ser Leu Val  
 180 185 190  
 Ile Asn Glu Glu Ser Phe Arg Gln Glu Ile Ala Pro Cys Arg Thr Phe  
 195 200 205  
 Ala Leu Tyr Asn Glu Leu Cys Phe Leu Met Glu Lys Gly Leu Ile Gly  
 210 215 220  
 Gly Gly Cys Leu Asp Asn Ala Val Val Phe Lys Asp Asp Gly Ile Ile  
 225 230 235 240  
 Ser Arg Gly Gln Leu Arg Phe Ala Asp Glu Pro Val Arg His Lys Ile  
 245 250 255  
 Leu Asp Leu Ile Gly Asp Leu Ser Leu Val Gly Arg Pro Phe Val Ala  
 260 265 270  
 His Val Leu Ala Val Gly Ser Gly His Ser Ser Asn Ile Ala Phe Gly  
 275 280 285  
 Lys Lys Ile Leu Glu Ala Leu Glu Leu  
 290 295

<210> 655  
 <211> 544  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 655  
 Gly Glu Pro Val Leu Arg Ile Phe Cys Phe Val Ile Ser Trp Cys Leu  
 1 5 10 15  
 Ile Ala Phe Ala Gln Pro Asp Leu Ser Gly Phe Val Ser Ile Leu Gly  
 20 25 30  
 Ala Ala Cys Gly Tyr Gly Phe Phe Trp Tyr Ser Leu Glu Pro Leu Lys  
 35 40 45  
 Lys Pro Ser Leu Pro Leu Arg Thr Leu Phe Val Ser Cys Phe Phe Trp  
 50 55 60  
 Ile Phe Thr Ile Glu Gly Ile His Phe Ser Trp Met Leu Ser Asp Gln  
 65 70 75 80  
 Tyr Ile Gly Lys Leu Ile Tyr Leu Val Trp Leu Thr Leu Ile Thr Ile  
 85 90 95  
 Leu Ser Val Leu Phe Ser Gly Phe Ser Cys Leu Leu Val Ala Ile Val  
 100 105 110  
 Arg Gln Lys Arg Thr Ala Phe Leu Trp Ser Leu Pro Gly Val Trp Val  
 115 120 125  
 Ala Ile Glu Met Leu Arg Phe Tyr Gly Ile Phe Ser Gly Met Ser Phe  
 130 135 140  
 Asp Tyr Leu Gly Trp Pro Met Thr Ala Ser Ala Tyr Gly Arg Gln Phe  
 145 150 155 160  
 Gly Gly Phe Leu Gly Trp Ala Gly Gln Ser Phe Ala Val Ile Ala Val  
 165 170 175

Asn Met Ser Phe Tyr Cys Leu Leu Leu Lys Lys Pro His Ala Lys Met  
 180 185 190  
 Leu Trp Val Leu Thr Leu Leu Leu Pro Tyr Thr Phe Gly Ala Ile His  
 195 200 205  
 Tyr Glu Tyr Leu Lys His Ala Phe Gln Gln Asp Lys Arg Ala Leu Arg  
 210 215 220  
 Val Ala Val Val Gln Pro Ala His Pro Pro Ile Arg Pro Lys Leu Lys  
 225 230 235 240  
 Ser Pro Ile Val Val Trp Glu Gln Leu Leu Gln Leu Val Ser Pro Ile  
 245 250 255  
 Gln Gln Pro Ile Asp Leu Leu Ile Phe Pro Glu Val Val Val Pro Phe  
 260 265 270  
 Gly Lys His Arg Gln Val Tyr Pro Tyr Glu Ser Cys Ala His Leu Leu  
 275 280 285  
 Ser Ser Phe Ala Pro Leu Pro Glu Gly Lys Ala Phe Leu Ser Asn Ser  
 290 295 300  
 Asp Cys Ala Thr Ala Leu Ser Gln His Phe Gln Cys Pro Val Ile Ile  
 305 310 315 320  
 Gly Leu Glu Arg Trp Val Lys Lys Glu Asn Val Leu Tyr Trp Tyr Asn  
 325 330 335  
 Ser Ala Glu Val Ile Ser His Lys Gly Ile Ser Val Gly Tyr Asp Lys  
 340 345 350  
 Arg Ile Leu Val Pro Gly Gly Glu Tyr Ile Pro Gly Gly Lys Phe Gly  
 355 360 365  
 Ser Leu Ile Cys Arg Gln Leu Phe Pro Lys Tyr Ala Leu Gly Cys Lys  
 370 375 380  
 Arg Leu Pro Gly Arg Arg Ser Gly Val Val Gln Val Arg Gly Leu Pro  
 385 390 395 400  
 Arg Ile Gly Ile Thr Ile Cys Tyr Glu Glu Thr Phe Gly Tyr Arg Leu  
 405 410 415  
 Gln Ser Tyr Lys Arg Gln Gly Ala Glu Leu Leu Val Asn Leu Thr Asn  
 420 425 430  
 Asp Gly Trp Tyr Pro Glu Ser Arg Leu Pro Lys Val His Phe Leu His  
 435 440 445  
 Gly Met Leu Arg Asn Gln Glu Phe Gly Met Pro Cys Val Arg Ala Cys  
 450 455 460  
 Gln Thr Gly Val Thr Ala Ala Val Asp Ser Leu Gly Arg Ile Leu Lys  
 465 470 475 480  
 Ile Leu Pro Tyr Asp Thr Arg Glu Thr Lys Ala Pro Ser Gly Val Leu  
 485 490 495  
 Glu Thr Ser Leu Pro Leu Phe Asn Tyr Lys Thr Leu Tyr Gly Tyr Cys  
 500 505 510  
 Gly Asp Tyr Pro Met Ile Leu Ile Ala Phe Cys Ala Val Ser Tyr Leu  
 515 520 525  
 Gly Gly Gly Phe Leu Gly Tyr Arg Leu Leu Ala Lys Lys Glu Ile Arg  
 530 535 540

<210> 656

<211> 183

<212> PRT

<213> Chlamydia pneumoniae

<400> 656

Lys Lys Ile Ile Asp Phe Leu Ser Val Asp Arg Tyr Tyr Arg Asn Gln  
 1 5 10 15  
 Glu Tyr Pro Ile Lys Ile Leu Ser Val Glu Ser Thr Met Leu Lys Lys  
 20 25 30  
 Lys Pro Val Ser Phe Ser Cys Ile Asp Gly His Ile Tyr Lys Ile Phe  
 35 40 45  
 Pro Asn Asp Leu Asn Ala Asn Asn Thr Val Phe Gly Gly Leu Leu Met  
 50 55 60



Ser Leu Leu Asp Arg Leu Ala Leu Val Val Ala Glu Arg His Thr Glu  
65 70 75 80  
Ser Val Cys Val Thr Ala Phe Val Asp Ala Leu Arg Phe Tyr Ala Pro  
85 90 95  
Ala Tyr Met Gly Glu Asn Leu Ile Cys Lys Ala Ala Val Asn Arg Thr  
100 105 110  
Trp Arg Thr Ser Leu Glu Val Gly Val Lys Val Trp Ala Glu Asn Ile  
115 120 125  
Tyr Lys Gln Glu Arg Arg His Ile Thr Ser Ala Tyr Phe Thr Phe Val  
130 135 140  
Ala Val Asn Glu Asp Asn Gln Pro Ile Pro Val His Gln Ile Val Pro  
145 150 155 160  
Glu Thr Pro Glu Glu Lys Arg Arg Tyr Asn Glu Ala Asp Arg Arg Arg  
165 170 175  
Gln Ala Arg Leu Glu Leu Lys  
180

<210> 657  
<211> 252  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 657  
Lys Glu Ile Met Ser Leu Leu Lys Asp Thr Val Phe Thr Cys Leu Asp  
1 5 10 15  
Cys Glu Met Thr Gly Leu Asp Val Lys Lys Asp Arg Ile Ile Glu Ile  
20 25 30  
Ala Ala Val Arg Phe Thr Phe Asp Ser Val Ile Ser Ser Ile Glu Phe  
35 40 45  
Leu Ile Asn Pro Glu Arg Val Val Ser Ala Glu Ser Gln Arg Val His  
50 55 60  
His Ile Ser Asn Ala Met Leu Arg Asp Gln Pro Lys Ile Ala Glu Val  
65 70 75 80  
Phe Pro Gln Ile Lys Ala Phe Phe Lys Glu Gly Asp Tyr Ile Val Gly  
85 90 95  
His Ser Val Gly Phe Asp Leu Gln Val Leu Ala Gln Glu Met Glu Arg  
100 105 110  
Ile Gly Glu Thr Phe Leu Ser Lys Tyr Thr Ile Ile Asp Thr Leu Arg  
115 120 125  
Leu Ala Lys Glu Tyr Gly Asp Ser Pro Asn Asn Ser Leu Glu Ser Leu  
130 135 140  
Ala Val His Phe Asn Val Pro Tyr Asp Gly Asn His Arg Ala Met Lys  
145 150 155 160  
Asp Val Glu Ile Asn Ile Asn Ile Phe Lys His Leu Cys Lys Arg Phe  
165 170 175  
Arg Thr Leu Glu Gln Leu Lys Gln Val Leu Ala Lys Pro Ile Lys Met  
180 185 190  
Lys Tyr Met Pro Leu Gly Lys His Lys Gly Arg Cys Phe Ser Glu Ile  
195 200 205  
Pro Leu Ala Tyr Leu Gln Trp Ala Ser Lys Met Asp Phe Asp Ser Asp  
210 215 220  
Leu Leu Phe Ser Ile Arg His Glu Ile Lys His Arg Gln Lys Gly Thr  
225 230 235 240  
Gly Phe Ser Gln Val Asn Asn Pro Phe Met Glu Leu  
245 250

<210> 658  
<211> 69  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 658  
 Thr His Asn Phe Leu Leu Leu Pro Leu Ser Leu Phe Asp Ile Leu Leu  
 1 5 10 15  
 Thr Val Glu Gly Phe Leu Cys Leu Thr Leu Tyr Phe Ala Ser Val Gln  
 20 25 30  
 Arg Met Pro Cys Glu Gln Lys Arg Val Pro Gly Asn Leu Tyr Tyr Tyr  
 35 40 45  
 Tyr Ile Ala Ala His Ser Ser Leu Cys Leu Ser Val Cys Lys Asp Thr  
 50 55 60  
 Met Glu Asn Lys Asp  
 65

<210> 659  
 <211> 142  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 659  
 Pro Met Gly Arg Tyr Arg Arg Val Ser His Ser Ser Gln Glu Thr Leu  
 1 5 10 15  
 Leu Leu Gly Thr Glu Leu Gly Gln Val Leu Val Pro Gly Ala Val Leu  
 20 25 30  
 Leu Leu Phe Gly Asp Tyr Gly Ala Gly Lys Thr Glu Phe Val Arg Gly  
 35 40 45  
 Ile Val Ser Gly Tyr Leu Gly Asp Thr Ile Ala Glu Glu Val Ala Ser  
 50 55 60  
 Pro Ser Phe Ser Ile Leu His Val Tyr Gly Asn Glu Pro Lys Arg Leu  
 65 70 75 80  
 Cys His Tyr Asp Leu Tyr Arg Ile Asp Gln Lys Asn Gln Glu Tyr Ile  
 85 90 95  
 Phe Gln Asp Ala Glu Glu Asp Asp Val Leu Cys Ile Glu Trp Ala Asp  
 100 105 110  
 Arg Leu Pro Lys Pro Arg Phe Cys Asp Thr Ile Asn Ile Tyr Ile Thr  
 115 120 125  
 Met Gln Thr Asn Met Glu Arg Glu Ile Ile Ile Glu Lys Arg  
 130 135 140

<210> 660  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 660  
 Lys Arg Val Gly Met Asp Ile Ser Gly Ala Val Lys Gln Lys Leu Leu  
 1 5 10 15  
 Gln Phe Leu Gly Lys Gln Lys Lys Pro Glu Leu Leu Ala Thr Tyr Leu  
 20 25 30  
 Phe Tyr Leu Glu Gln Ala Leu Ser Leu Arg Pro Val Val Phe Val Arg  
 35 40 45  
 Asp Lys Ile Ile Phe Lys Thr Pro Glu Asp Ala Val Arg Ile Leu Glu  
 50 55 60  
 Gln Asp Lys Lys Ile Trp Arg Glu Thr Glu Ile Gln Ile Ser Ser Glu  
 65 70 75 80  
 Lys Pro Gln Val Asn Glu Asn Thr Lys Arg Ile Tyr Ile Cys Pro Phe  
 85 90 95  
 Thr Gly Lys Val Phe Ala Asp Asn Val Tyr Ala Asn Pro Gln Asp Ala  
 100 105 110  
 Ile Tyr Asp Trp Leu Ser Ser Cys Pro Gln Asn Met Glu Lys Gln Gly  
 115 120 125  
 Gly Val Arg Ile Lys Arg Phe Leu Val Ser Glu Asp Pro Asp Val Ile  
 130 135 140

Lys Glu Tyr Ala Val Pro Pro Lys Glu Pro Ile Ile Lys Thr Val Phe  
 145 150 155 160  
 Ala Ser Ala Ile Thr Gly Lys Leu Phe His Ser Leu Pro Pro Leu Leu  
 165 170 175  
 Glu Asp Phe Ile Ser Ser Tyr Leu Arg Pro Met Thr Leu Glu Glu Val  
 180 185 190  
 Gln Asn Gln Thr Lys Phe Gln Leu Glu Ser Ser Phe Leu Ser Leu Leu  
 195 200 205  
 Gln Asp Ala Leu Val Glu Asp Lys Ile Ala Ala Phe Ile Glu Ser Leu  
 210 215 220  
 Ala Asp Asp Thr Ala Phe His Val Tyr Ile Ser Gln Trp Val Asp Thr  
 225 230 235 240  
 Glu Glu

<210> 661  
 <211> 120  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 661  
 Leu Gln Glu Asn Asn Arg Asp Ser Asn Ser Ile Phe Phe Arg Glu Gly  
 1 5 10 15  
 Lys Leu Met Val Lys Ile Ile Ser Ser Glu Asn Phe Asp Ser Phe Ile  
 20 25 30  
 Ala Ser Gly Leu Val Leu Val Asp Phe Phe Ala Glu Trp Cys Gly Pro  
 35 40 45  
 Cys Arg Met Leu Thr Pro Ile Leu Glu Asn Leu Ala Glu Leu Pro  
 50 55 60  
 His Val Thr Ile Gly Lys Ile Asn Ile Asp Glu Asn Ser Lys Pro Ala  
 65 70 75 80  
 Glu Thr Tyr Glu Val Ser Ser Ile Pro Thr Leu Ile Leu Phe Lys Asp  
 85 90 95  
 Gly Asn Glu Val Ala Arg Val Val Gly Leu Lys Asp Lys Glu Phe Leu  
 100 105 110  
 Thr Asn Leu Ile Asn Lys His Ala  
 115 120

<210> 662  
 <211> 156  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 662  
 Met Arg Val Val Leu His Cys Pro Asp Ile Pro Gln Asn Thr Gly Asn  
 1 5 10 15  
 Ile Gly Arg Thr Cys Val Ala Leu Gly Ala Glu Leu Ile Leu Val Arg  
 20 25 30  
 Pro Leu Gly Phe Ser Leu Ala Asp Lys Phe Val Lys Arg Ala Gly Met  
 35 40 45  
 Asp Tyr Trp Asp Lys Leu Gln Leu Thr Val Val Asp Ser Ile Glu Glu  
 50 55 60  
 Ala Leu His Asp Val Pro Glu Asp Gln Ile Phe Cys Leu Ser Thr Lys  
 65 70 75 80  
 Gly Ser Ala Ser Tyr Thr Glu Phe Ser Leu Pro Ser Ser Gly Thr Tyr  
 85 90 95  
 Val Phe Gly Ser Glu Ser Lys Gly Leu Pro Lys Glu Ile Leu Lys Lys  
 100 105 110  
 Tyr Tyr Lys Asn Cys Leu Arg Ile Pro Met Gln Gln Asp Ile Arg Ser  
 115 120 125

Leu Asn Leu Ala Thr Ser Val Gly Ile Val Leu Tyr Glu Val Val Arg  
 130 135 140  
 Gln Lys Thr Val Ala Leu Gln Lys Asn Pro Thr Val  
 145 150 155

<210> 663  
 <211> 271  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 663  
 His Ser Arg Cys Leu Lys Ile Lys Asp Arg Arg Arg Lys Met Asn Arg  
 1 5 10 15  
 Arg Trp Asn Leu Val Leu Ala Thr Val Ala Leu Ala Leu Ser Val Ala  
 20 25 30  
 Ser Cys Asp Val Arg Ser Lys Asp Lys Asp Lys Asp Gln Gly Ser Leu  
 35 40 45  
 Val Glu Tyr Lys Asp Asn Lys Asp Thr Asn Asp Ile Glu Leu Ser Asp  
 50 55 60  
 Asn Gln Lys Leu Ser Arg Thr Phe Gly His Leu Leu Ala Arg Gln Leu  
 65 70 75 80  
 Arg Lys Ser Glu Asp Met Phe Phe Asp Ile Ala Glu Val Ala Lys Gly  
 85 90 95  
 Leu Gln Ala Glu Leu Val Cys Lys Ser Ala Pro Leu Thr Glu Thr Glu  
 100 105 110  
 Tyr Glu Glu Lys Met Ala Glu Val Gln Lys Leu Val Phe Glu Lys Lys  
 115 120 125  
 Ser Lys Glu Asn Leu Ser Leu Ala Glu Lys Phe Leu Lys Glu Asn Ser  
 130 135 140  
 Lys Asn Ala Gly Val Val Glu Val Gln Pro Ser Lys Leu Gln Tyr Lys  
 145 150 155 160  
 Ile Ile Lys Glu Gly Ala Gly Lys Ala Ile Ser Gly Lys Pro Ser Ala  
 165 170 175  
 Leu Leu His Tyr Lys Gly Ser Phe Ile Asn Gly Gln Val Phe Ser Ser  
 180 185 190  
 Ser Glu Gly Asn Asn Glu Pro Ile Leu Leu Pro Leu Gly Gln Thr Ile  
 195 200 205  
 Pro Gly Phe Ala Leu Gly Met Gln Gly Met Lys Glu Gly Glu Thr Arg  
 210 215 220  
 Val Leu Tyr Ile His Pro Asp Leu Ala Tyr Gly Thr Ala Gly Gln Leu  
 225 230 235 240  
 Pro Pro Asn Ser Leu Leu Ile Phe Glu Ile Asn Leu Ile Gln Ala Ser  
 245 250 255  
 Ala Asp Glu Val Ala Ala Val Pro Gln Glu Gly Asn Gln Gly Glu  
 260 265 270

<210> 664  
 <211> 589  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 664  
 Ser Lys Gly Cys Tyr Met Lys Tyr Arg Thr His Arg Cys Asn Glu Leu  
 1 5 10 15  
 Thr Ser Asn His Ile Gly Glu Asn Val Gln Leu Ala Gly Trp Val His  
 20 25 30  
 Arg Tyr Arg Asn His Gly Gly Val Phe Ile Asp Leu Arg Asp Arg  
 35 40 45  
 Phe Gly Ile Thr Gln Ile Val Cys Arg Glu Asp Glu Gln Pro Glu Leu  
 50 55 60

His Gln Arg Leu Asp Ala Val Arg Ser Glu Trp Val Leu Ser Val Arg  
 65 70 75 80  
 Gly Lys Val Cys Pro Arg Leu Ala Gly Met Glu Asn Pro Asn Leu Ala  
 85 90 95  
 Thr Gly His Ile Glu Val Glu Val Ala Ser Phe Glu Val Leu Ser Lys  
 100 105 110  
 Ser Gln Asn Leu Pro Phe Ser Ile Ala Asp Asp His Ile Asn Val Asn  
 115 120 125  
 Glu Glu Leu Arg Leu Glu Tyr Arg Tyr Leu Asp Met Arg Arg Gly Asp  
 130 135 140  
 Ile Ile Glu Lys Leu Leu Cys Arg His Gln Val Met Leu Ala Cys Arg  
 145 150 155 160  
 Asn Phe Met Asp Ala Gln Gly Phe Thr Glu Ile Val Thr Pro Val Leu  
 165 170 175  
 Gly Lys Ser Thr Pro Glu Gly Ala Arg Asp Tyr Leu Val Pro Ser Arg  
 180 185 190  
 Ile Tyr Pro Gly Lys Phe Tyr Ala Leu Pro Gln Ser Pro Gln Leu Phe  
 195 200 205  
 Lys Gln Leu Leu Met Val Gly Gly Leu Asp Arg Tyr Phe Gln Ile Ala  
 210 215 220  
 Thr Cys Phe Arg Asp Glu Asp Leu Arg Ala Asp Arg Gln Pro Glu Phe  
 225 230 235 240  
 Ala Gln Ile Asp Ile Glu Met Ser Phe Gly Asp Thr Gln Asp Leu Leu  
 245 250 255  
 Pro Ile Ile Glu Gln Leu Val Ala Thr Leu Phe Ala Thr Gln Gly Ile  
 260 265 270  
 Glu Ile Pro Leu Pro Leu Ala Lys Met Thr Tyr Gln Glu Ala Lys Asp  
 275 280 285  
 Ser Tyr Gly Thr Asp Lys Pro Asp Leu Arg Phe Asp Leu Lys Leu Lys  
 290 295 300  
 Asp Cys Arg Asp Tyr Ala Lys Arg Ser Ser Phe Ser Ile Phe Leu Asp  
 305 310 315 320  
 Gln Leu Ala His Gly Gly Thr Ile Lys Gly Phe Cys Val Pro Gly Gly  
 325 330 335  
 Ala Thr Met Ser Arg Lys Gln Leu Asp Gly Tyr Thr Glu Phe Val Lys  
 340 345 350  
 Arg Tyr Gly Ala Met Gly Leu Val Trp Ile Lys Asn Gln Glu Gly Lys  
 355 360 365  
 Val Ala Ser Asn Ile Ala Lys Phe Met Asp Glu Glu Val Phe His Glu  
 370 375 380  
 Leu Phe Ala Tyr Phe Asp Ala Lys Asp Gln Asp Ile Leu Leu Leu Ile  
 385 390 395 400  
 Ala Ala Pro Glu Ser Val Ala Asn Gln Ser Leu Asp His Leu Arg Arg  
 405 410 415  
 Leu Ile Ala Lys Glu Arg Glu Leu Tyr Ser Asp Asn Gln Tyr Asn Phe  
 420 425 430  
 Val Trp Ile Thr Asp Phe Pro Leu Phe Ser Leu Glu Asp Gly Lys Ile  
 435 440 445  
 Val Ala Glu His His Pro Phe Thr Ala Pro Leu Glu Glu Asp Ile Pro  
 450 455 460  
 Leu Leu Glu Thr Asp Pro Leu Ala Val Arg Ser Ser Ser Tyr Asp Leu  
 465 470 475 480  
 Val Leu Asn Gly Tyr Glu Ile Ala Ser Gly Ser Gln Arg Ile His Asn  
 485 490 495  
 Pro Asp Leu Gln Ser Gln Ile Phe Thr Ile Leu Lys Ile Ser Pro Glu  
 500 505 510  
 Ser Ile Gln Glu Lys Phe Gly Phe Ile Lys Ala Leu Ser Phe Gly  
 515 520 525  
 Thr Pro Pro His Leu Gly Ile Ala Leu Gly Leu Asp Arg Leu Val Met  
 530 535 540

Val Leu Thr Ala Ala Glu Ser Ile Arg Glu Val Ile Ala Phe Pro Lys  
 545 550 555 560  
 Thr Gln Lys Ala Ser Asp Leu Met Met Asn Ala Pro Ser Glu Ile Met  
 565 570 575  
 Ser Ser Gln Leu Lys Glu Leu Ser Ile Lys Val Ala Phe  
 580 585

<210> 665  
 <211> 440  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 665  
 Lys Ser Asn His Phe Glu Arg Arg His His Val Thr Val Thr Leu Pro  
 1 5 10 15  
 Lys Gly Val Phe Asp Ile Phe Pro Tyr Leu Ala Asp Ala Lys Gln Leu  
 20 25 30  
 Trp Arg His Thr Ser Leu Trp His Ser Val Glu Lys Ala Ile His Thr  
 35 40 45  
 Val Cys Met Leu Tyr Gly Phe Cys Glu Ile Arg Thr Pro Ile Phe Glu  
 50 55 60  
 Lys Ser Glu Val Phe Leu His Val Gly Glu Glu Ser Asp Val Val Lys  
 65 70 75 80  
 Lys Glu Val Tyr Ser Phe Leu Asp Arg Lys Gly Arg Ser Met Thr Leu  
 85 90 95  
 Arg Pro Glu Gly Thr Ala Ala Val Val Arg Ser Phe Leu Glu His Gly  
 100 105 110  
 Ala Ser His Arg Ser Asp Asn Lys Phe Tyr Tyr Ile Leu Pro Met Phe  
 115 120 125  
 Arg Tyr Glu Arg Gln Gln Ala Gly Arg Tyr Arg Gln His His Gln Phe  
 130 135 140  
 Gly Val Glu Ala Ile Gly Val Arg His Pro Leu Arg Asp Ala Glu Val  
 145 150 155 160  
 Leu Ala Leu Leu Trp Asp Phe Tyr Ser Arg Val Gly Leu Gln His Met  
 165 170 175  
 Gln Ile Gln Leu Asn Phe Leu Gly Gly Ser Glu Thr Arg Phe Arg Tyr  
 180 185 190  
 Asp Lys Val Leu Arg Ala Tyr Leu Lys Glu Ser Met Gly Glu Leu Ser  
 195 200 205  
 Ala Leu Ser Gln Gln Arg Phe Ser Thr Asn Val Leu Arg Ile Leu Asp  
 210 215 220  
 Ser Lys Glu Pro Glu Asp Gln Glu Ile Ile Arg Gln Ala Pro Pro Ile  
 225 230 235 240  
 Leu Asp Tyr Val Ser Asp Glu Asp Leu Lys Tyr Phe Asn Glu Ile Leu  
 245 250 255  
 Asp Ala Leu Arg Val Leu Glu Ile Pro Tyr Ala Ile Asn Pro Arg Leu  
 260 265 270  
 Val Arg Gly Leu Asp Tyr Tyr Ser Asp Leu Val Phe Glu Ala Thr Thr  
 275 280 285  
 Thr Phe Gln Glu Val Ser Tyr Ala Leu Gly Gly Gly Arg Tyr Asp  
 290 295 300  
 Gly Leu Ile Ser Ala Phe Gly Gly Ala Ser Leu Pro Ala Cys Gly Phe  
 305 310 315 320  
 Gly Val Gly Leu Glu Arg Ala Ile Gln Thr Leu Leu Ala Gln Lys Arg  
 325 330 335  
 Ile Glu Pro Gln Phe Pro His Lys Leu Arg Leu Ile Pro Met Glu Pro  
 340 345 350  
 Asp Ala Asp Gln Phe Cys Leu Glu Trp Ser Gln His Leu Arg Arg Leu  
 355 360 365  
 Gly Ile Pro Thr Glu Val Asp Trp Ser His Lys Lys Val Lys Gly Ala  
 370 375 380

Leu Lys Ala Ala Ser Thr Glu Gln Val Ser Phe Val Cys Leu Ile Gly  
 385 390 395 400  
 Glu Arg Glu Leu Ile Ser Gln Gln Leu Val Ile Lys Asn Met Ser Leu  
 405 410 415  
 Arg Lys Glu Phe Phe Gly Thr Lys Glu Glu Val Glu Gln Arg Leu Leu  
 420 425 430  
 Tyr Glu Ile Gln Asn Thr Pro Leu  
 435 440

<210> 666  
 <211> 73  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 666  
 Leu Trp Glu Ala His Ala Met Lys Lys Leu Ile Ala Leu Ile Gly Ile  
 1 5 10 15  
 Phe Leu Val Pro Ile Lys Gly Asn Thr Asn Lys Glu His Asp Ala His  
 20 25 30  
 Ala Thr Val Leu Lys Ala Ala Arg Ala Lys Tyr Asn Leu Phe Phe Val  
 35 40 45  
 Gln Asp Val Phe Pro Val His Glu Val Ile Glu Pro Ile Ser Pro Asp  
 50 55 60  
 Cys Leu Val His Tyr Glu Gly Trp Val  
 65 70

<210> 667  
 <211> 456  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 667  
 Lys Met Asn Val Trp Thr Lys Phe Phe Gln Pro Pro Lys His Ile Lys  
 1 5 10 15  
 Glu Ile Glu Asp Gln Glu Val Val Lys Lys Tyr Lys Tyr Trp Arg  
 20 25 30  
 Ile Arg Ile Phe Tyr Ser Met Phe Ile Gly Tyr Ile Phe Tyr Tyr Phe  
 35 40 45  
 Thr Arg Lys Ser Phe Thr Phe Ala Met Pro Thr Leu Ile Ala Asp Leu  
 50 55 60  
 Gly Phe Asp Lys Ala Gln Leu Gly Ile Ile Gly Ser Thr Leu Tyr Phe  
 65 70 75 80  
 Ser Tyr Gly Ile Ser Lys Phe Val Ser Gly Val Met Ser Asp Gln Ser  
 85 90 95  
 Asn Pro Arg Tyr Phe Met Ala Ile Gly Leu Met Ile Thr Gly Leu Thr  
 100 105 110  
 Asn Ile Phe Phe Gly Met Ser Ser Ser Ile Val Leu Phe Ala Leu Trp  
 115 120 125  
 Trp Gly Leu Asn Gly Trp Phe Gln Gly Trp Gly Trp Pro Pro Cys Ala  
 130 135 140  
 Arg Leu Leu Thr His Trp Tyr Ala Lys Ser Glu Arg Gly Thr Trp Trp  
 145 150 155 160  
 Ser Val Trp Ser Thr Ser His Asn Ile Gly Gly Ala Leu Ile Pro Ile  
 165 170 175  
 Leu Thr Gly Phe Ile Ile Asp Tyr Ser Gly Trp Arg Gly Ala Met Tyr  
 180 185 190  
 Val Pro Gly Ile Leu Cys Ile Gly Met Gly Leu Val Leu Ile Asn Arg  
 195 200 205  
 Leu Arg Asp Thr Pro Gln Ser Leu Gly Leu Pro Pro Ile Glu Lys Tyr  
 210 215 220

Lys Arg Asp Pro His His Ala His His Glu Gly Lys Ser Ala Ser Glu  
 225 230 235 240  
 Gly Thr Glu Glu Ile Glu Arg Glu Leu Ser Thr Arg Glu Ile Leu Phe  
 245 250 255  
 Thr Tyr Val Leu Thr Asn Gln Trp Leu Trp Phe Leu Ala Ala Ala Ser  
 260 265 270  
 Phe Phe Ile Tyr Ile Val Arg Met Ala Val Asn Asp Trp Ser Ala Leu  
 275 280 285  
 Phe Leu Ile Glu Thr Lys His Tyr Ala Ala Val Lys Ala Asn Phe Cys  
 290 295 300  
 Val Ser Leu Phe Glu Ile Gly Gly Leu Phe Gly Met Leu Val Ala Gly  
 305 310 315 320  
 Trp Leu Ser Asp Lys Ile Ser Lys Gly Asn Arg Gly Pro Met Asn Val  
 325 330 335  
 Leu Phe Ser Leu Gly Leu Leu Phe Ala Ile Leu Gly Met Trp Phe Ser  
 340 345 350  
 Arg Ser His Asn Gln Trp Trp Val Asp Gly Thr Leu Leu Phe Val Ile  
 355 360 365  
 Gly Phe Phe Leu Tyr Gly Pro Gln Met Met Ile Gly Leu Ala Ala Ala  
 370 375 380  
 Glu Leu Ser His Lys Lys Ala Ala Gly Thr Ala Ser Gly Phe Thr Gly  
 385 390 395 400  
 Trp Phe Ala Tyr Phe Gly Ala Thr Phe Ala Gly Tyr Pro Leu Gly Lys  
 405 410 415  
 Val Thr Asp Val Trp Gly Trp Lys Gly Phe Phe Ile Ala Leu Leu Ala  
 420 425 430  
 Cys Ala Ser Ile Ala Leu Leu Leu Phe Leu Pro Thr Trp Asn Ala Thr  
 435 440 445  
 Glu Lys Asn Thr Arg Ser Lys Ala  
 450 455

<210> 668  
 <211> 1243  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 668  
 Gly Phe Phe Leu Thr Trp Ile Pro Leu His Cys His Ser Gln Tyr Ser  
 1 5 10 15  
 Val Leu Asp Ala Met Ser Ser Ile Lys Asp Phe Val Ala Lys Gly Gln  
 20 25 30  
 Glu Phe Gly Ile Pro Ala Leu Ala Leu Thr Asp His Gly Asn Leu Tyr  
 35 40 45  
 Gly Ala Val Asp Phe Tyr Lys Glu Cys Thr Gln Lys Gly Ile Gln Pro  
 50 55 60  
 Ile Ile Gly Cys Glu Cys Tyr Ile Ala Pro Gly Ser Arg Phe Asp Lys  
 65 70 75 80  
 Lys Lys Glu Lys Arg Ser Arg Ala Ala His Leu Ile Leu Leu Cys  
 85 90 95  
 Lys Asn Glu Gln Gly Tyr Arg Asn Leu Cys Ile Leu Thr Ser Leu Ala  
 100 105 110  
 Phe Thr Glu Gly Phe Tyr Tyr Phe Pro Arg Ile Asp Lys Asp Leu Leu  
 115 120 125  
 Arg Gln Tyr Ser Glu Gly Leu Ile Cys Leu Ser Gly Cys Leu Ser Ser  
 130 135 140  
 Ser Val Ser Asp Ala Ala Leu Lys Ser Pro Glu Ala Leu Leu Leu Glu  
 145 150 155 160  
 Leu Gln Trp Phe Gln Asp Leu Phe Lys Asp Asp Tyr Phe Thr Glu Val  
 165 170 175  
 Gln Leu His Lys Met Ser Glu Glu Ser Ile Ala Gly Phe Lys Glu Glu  
 180 185 190



Trp Leu Lys Gln Glu Tyr Tyr Ser Leu Ile Glu Lys Gln Ile Lys Val  
 195 200 205  
 Asn Thr Ala Val Leu Glu Ala Ser Lys Arg Leu Gly Ile Pro Thr Val  
 210 215 220  
 Ala Thr Asn Asp Ile His Tyr Ile Asn Ala Asn Asp Trp Gln Ala His  
 225 230 235 240  
 Glu Ile Leu Leu Asn Val Gln Ser Gly Glu Thr Val Arg Ile Ala Lys  
 245 250 255  
 Gln Asn Thr His Ile Pro Asn Pro Lys Arg Lys Val Tyr Arg Ser Arg  
 260 265 270  
 Glu Tyr Tyr Phe Lys Ser Pro Ala Gln Met Ala Glu Leu Phe Lys Asp  
 275 280 285  
 Ile Pro Glu Val Ile Ser Asn Thr Leu Glu Val Ala Lys Arg Cys Asp  
 290 295 300  
 Phe Thr Phe Asp Phe Ser Lys Lys His Tyr Pro Ile Tyr Val Pro Glu  
 305 310 315 320  
 Ser Leu Lys Thr Leu Asn Ser Tyr Thr Glu Glu Asp Arg Tyr Gln Ala  
 325 330 335  
 Ser Ala Val Phe Leu Lys Gln Leu Ala Glu Glu Ala Leu Pro Lys Lys  
 340 345 350  
 Tyr Ser Ser Glu Val Leu Ala His Ile Ala Lys Lys Phe Pro His Arg  
 355 360 365  
 Asp Pro Ile Asp Ile Val Lys Glu Arg Met Asp Met Glu Met Ala Ile  
 370 375 380  
 Ile Ile Pro Lys Gly Met Cys Asp Tyr Leu Leu Ile Val Trp Asp Ile  
 385 390 395 400  
 Ile His Trp Ala Lys Ala Asn Gly Ile Pro Val Gly Pro Gly Arg Gly  
 405 410 415  
 Ser Gly Ala Gly Ser Val Leu Leu Phe Leu Leu Gly Ile Thr Glu Ile  
 420 425 430  
 Glu Pro Ile Arg Phe Asp Leu Phe Phe Glu Arg Phe Ile Asn Pro Glu  
 435 440 445  
 Arg Leu Ser Tyr Pro Asp Ile Asp Ile Asp Ile Cys Met Ala Gly Arg  
 450 455 460  
 Glu Arg Val Ile Asn Tyr Ala Ile Glu Arg His Gly Lys Asp Asn Val  
 465 470 475 480  
 Ala Gln Ile Ile Thr Phe Gly Thr Met Lys Ala Lys Met Ala Val Lys  
 485 490 495  
 Asp Val Gly Arg Thr Leu Asp Met Ala Leu Ser Lys Val Asn His Ile  
 500 505 510  
 Ala Lys His Ile Pro Asp Leu Asn Thr Thr Leu Ser Lys Ala Leu Glu  
 515 520 525  
 Thr Asp Pro Asp Leu His Gln Leu Tyr Ile Asn Asp Ala Glu Ser Ala  
 530 535 540  
 Gln Val Ile Asp Met Ala Leu Cys Leu Glu Gly Ser Ile Arg Asn Thr  
 545 550 555 560  
 Gly Val His Ala Ala Gly Val Ile Ile Cys Gly Asp Gln Leu Thr Asn  
 565 570 575  
 His Ile Pro Ile Cys Ile Ser Lys Asp Ser Thr Met Ile Thr Thr Gln  
 580 585 590  
 Tyr Ser Met Lys Pro Val Glu Ser Val Gly Met Leu Lys Val Asp Leu  
 595 600 605  
 Leu Gly Leu Lys Thr Leu Thr Ser Ile Asn Ile Ala Met Ser Ala Ile  
 610 615 620  
 Glu Lys Lys Thr Gly Gln Ser Leu Ala Met Ala Thr Leu Pro Leu Asp  
 625 630 635 640  
 Asp Ala Thr Thr Phe Ser Leu Leu His Gln Gly Lys Thr Met Gly Ile  
 645 650 655  
 Phe Gln Met Glu Ser Lys Gly Met Gln Glu Leu Ala Lys Asn Leu Arg  
 660 665 670

Pro Asp Leu Phe Glu Glu Ile Ile Ala Met Gly Ala Leu Tyr Arg Pro  
 675 680 685  
 Gly Pro Met Asp Met Ile Pro Ser Phe Ile Asn Arg Lys His Gly Lys  
 690 695 700  
 Glu Ile Ile Glu Tyr Asp His Pro Leu Met Glu Ser Ile Leu Lys Glu  
 705 710 715 720  
 Thr Tyr Gly Ile Met Val Tyr Gln Glu Gln Val Met Gln Ile Ala Gly  
 725 730 735  
 Ala Leu Ala Ser Tyr Ser Leu Gly Glu Gly Asp Val Leu Arg Arg Ala  
 740 745 750  
 Met Gly Lys Lys Asp Phe Gln Gln Met Glu Gln Glu Arg Glu Lys Phe  
 755 760 765  
 Cys Lys Arg Ala Cys Asn Asn Gly Ile Asp Pro Glu Leu Ala Thr Val  
 770 775 780  
 Ile Phe Asp Lys Met Glu Lys Phe Ala Ala Tyr Gly Phe Asn Lys Ser  
 785 790 795 800  
 His Ala Ala Ala Tyr Gly Leu Ile Thr Tyr Thr Thr Ala Tyr Leu Lys  
 805 810 815  
 Ala Asn Tyr Pro Lys Glu Trp Leu Ala Ala Leu Leu Thr Cys Asp Ser  
 820 825 830  
 Asp Asp Ile Glu Lys Ile Gly Lys Leu Ile Arg Glu Ala Gln Ser Met  
 835 840 845  
 Gly Ile Pro Ile Leu Pro Pro His Ile Asn Val Ser Ser Asn His Phe  
 850 855 860  
 Val Ala Thr Asp Glu Gly Ile Arg Phe Ala Met Gly Ala Ile Lys Gly  
 865 870 875 880  
 Ile Gly Arg Gly Leu Ile Glu Ser Ile Val Glu Glu Arg Asp His His  
 885 890 895  
 Gly Pro Tyr Glu Ser Ile Arg Asp Phe Ile Gln Arg Ser Asp Leu Lys  
 900 905 910  
 Lys Val Ser Lys Lys Ser Ile Glu Ser Leu Ile Asp Ala Gly Cys Phe  
 915 920 925  
 Asp Cys Phe Asp Ser Asn Arg Asp Leu Leu Leu Ala Ser Val Glu Pro  
 930 935 940  
 Leu Tyr Glu Ala Ile Ala Lys Asp Lys Lys Glu Ala Ala Ser Gly Val  
 945 950 955 960  
 Met Thr Phe Phe Thr Leu Gly Ala Met Asp Arg Lys Asn Glu Val Pro  
 965 970 975  
 Ile Cys Leu Pro Lys Asp Ile Pro Thr Arg Ser Lys Lys Glu Leu Leu  
 980 985 990  
 Lys Lys Glu Lys Glu Leu Leu Gly Ile Tyr Leu Thr Glu His Pro Met  
 995 1000 1005  
 Asp Thr Val Arg Asp His Leu Ser Arg Leu Ser Val Val Leu Ala Gly  
 1010 1015 1020  
 Glu Phe Glu Asn Leu Pro His Gly Ser Val Val Arg Thr Val Phe Ile  
 1025 1030 1035 1040  
 Ile Asp Lys Val Thr Thr Lys Ile Ser Ser Lys Ala Gln Lys Lys Phe  
 1045 1050 1055  
 Ala Val Leu Arg Val Ser Asp Gly Ile Asp Ser Tyr Glu Leu Pro Ile  
 1060 1065 1070  
 Trp Pro Asp Met Tyr Glu Glu Gln Gln Glu Leu Leu Glu Glu Asp Arg  
 1075 1080 1085  
 Leu Ile Tyr Ala Ile Leu Val Leu Asp Lys Arg Ser Asp Ser Leu Arg  
 1090 1095 1100  
 Ile Ser Cys Arg Trp Met Lys Asp Leu Ser Ile Val Asn Glu Asn Ile  
 1105 1110 1115 1120  
 Ile Tyr Glu Cys Asp Gln Ala Phe Asp Arg Ile Lys Asn Gln Val Gln  
 1125 1130 1135  
 Lys Met Ser Phe Thr Met Ser Thr Ser Gly Lys Glu Thr Lys Ala Lys  
 1140 1145 1150

Gly Asn Lys Pro Asn Glu Asn Gly His Thr Gln Ala Leu Ala Pro Val  
 1155 1160 1165  
 Thr Leu Ser Leu Asp Leu Asn Glu Leu Arg His Ser His Leu Cys Ile  
 1170 1175 1180  
 Leu Lys Lys Ile Val Gln Lys His Pro Gly Ser Arg Thr Leu Val Leu  
 1185 1190 1195 1200  
 Val Phe Thr Gln Asp Asn Glu Arg Val Ala Ser Met Ser Pro Asp Asp  
 1205 1210 1215  
 Ala Tyr Phe Val Cys Glu Asp Ile Glu Glu Leu Arg Gln Glu Leu Val  
 1220 1225 1230  
 Thr Ala Asp Leu Pro Val Arg Val Ile Thr Val  
 1235 1240

<210> 669

<211> 307

<212> PRT

<213> Chlamydia pneumoniae

<400> 669

Asn Ile Ser Leu Leu Cys Lys Ile Gln Lys Arg Tyr Phe Met Lys Lys  
 1 5 10 15  
 Leu Ile Leu Tyr Phe Ala Ala Phe Val Ala Ser Leu Phe Cys Gly Val  
 20 25 30  
 Phe Leu Trp Asp Arg Val Pro Cys Ala Gln Lys Ile Met Arg Leu Ala  
 35 40 45  
 Ala Asp His Ser Ser Glu Val Phe Ser Lys Ser Cys Arg Phe Val Arg  
 50 55 60  
 Lys Ile Ser Gly Phe Glu Glu Leu Gln Val Phe Glu Arg His Val Ser  
 65 70 75 80  
 Pro Glu Gln Ala Leu Ala Leu Phe Pro Glu Tyr Arg Asp Gly Lys Ser  
 85 90 95  
 Phe Val Glu Leu Ala Phe Ile Pro His Thr Leu Met His Val Arg Phe  
 100 105 110  
 Ser Lys Glu Glu Pro Val Lys Lys His Ile Ile Ser Gln Glu Gly Glu  
 115 120 125  
 Ile Leu Trp Ser Leu Val Asn Gly Glu Met Val Leu His Thr Gly Thr  
 130 135 140  
 Trp Thr Cys Ser Lys Gly Phe Arg Glu Cys Leu Leu Leu His Ala Gly  
 145 150 155 160  
 Lys Gln Asp Met Arg Val Ile Gln Thr Leu Ala Thr Leu Gly Gly Thr  
 165 170 175  
 Thr Ser Arg Glu Ser Leu Ala Gln Ala Leu Ala Leu Lys Asn Ile Arg  
 180 185 190  
 Ala Glu Arg Val Ile Lys Glu Cys Gln Lys Lys Lys Leu Ile Phe Ala  
 195 200 205  
 Ser Gly Asn Gln Ile Gly Thr His Phe Gln Gln Phe Gln Pro Ile Arg  
 210 215 220  
 Gly Cys Thr Thr Thr Leu Asn Asn Asn Pro Val Trp Leu Gln Lys Pro  
 225 230 235 240  
 Arg His Ala Ala Val Phe Pro Ala Gln Tyr Ser Glu Asp Arg Val Arg  
 245 250 255  
 His Leu Val Lys Met Ile Phe Gly Asp Asn Phe Leu Ile Val Arg Ser  
 260 265 270  
 Ser Met Val Tyr Val Pro Val Tyr Lys Ile Ser Leu Val Ser Ala Asp  
 275 280 285  
 Asn Ser Val Arg Val Glu Tyr Ile Asn Ala Val Thr Gly Lys Ser Phe  
 290 295 300  
 Gln Asp Leu  
 305

<210> 670  
 <211> 329  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 670  
 Trp Arg Phe Val Val Val Ser Pro Arg Leu Ile Met Lys Phe Leu Leu  
 1 5 10 15  
 Tyr Val Pro Leu Leu Val Leu Val Ser Thr Gly Cys Asp Ala Lys  
 20 25 30  
 Pro Val Ser Phe Glu Pro Phe Ser Gly Lys Leu Ser Thr Gln Arg Phe  
 35 40 45  
 Glu Pro Gln His Ser Ala Glu Glu Tyr Phe Ser Gln Gly Gln Glu Phe  
 50 55 60  
 Leu Lys Lys Gly Asn Phe Arg Lys Ala Leu Leu Cys Phe Gly Ile Ile  
 65 70 75 80  
 Thr His His Phe Pro Arg Asp Ile Leu Arg Asn Gln Ala Gln Tyr Leu  
 85 90 95  
 Ile Gly Val Cys Tyr Phe Thr Gln Asp His Pro Asp Leu Ala Asp Lys  
 100 105 110  
 Ala Phe Ala Ser Tyr Leu Gln Leu Pro Asp Ala Glu Tyr Ser Glu Glu  
 115 120 125  
 Leu Phe Gln Met Lys Tyr Ala Ile Ala Gln Arg Phe Ala Gln Gly Lys  
 130 135 140  
 Arg Lys Arg Ile Cys Arg Leu Glu Gly Phe Pro Lys Leu Met Asn Ala  
 145 150 155 160  
 Asp Glu Asp Ala Leu Arg Ile Tyr Asp Glu Ile Leu Thr Ala Phe Pro  
 165 170 175  
 Ser Lys Asp Leu Gly Ala Gln Ala Leu Tyr Ser Lys Ala Ala Leu Leu  
 180 185 190  
 Ile Val Lys Asn Asp Leu Thr Glu Ala Thr Lys Thr Leu Lys Lys Leu  
 195 200 205  
 Thr Leu Gln Phe Pro Leu His Ile Leu Ser Ser Glu Ala Phe Val Arg  
 210 215 220  
 Leu Ser Glu Ile Tyr Leu Gln Gln Ala Lys Lys Glu Pro His Asn Leu  
 225 230 235 240  
 Gln Tyr Leu His Phe Ala Lys Leu Asn Glu Glu Ala Met Lys Lys Gln  
 245 250 255  
 His Pro Asn His Pro Leu Asn Glu Val Val Ser Ala Asn Val Gly Ala  
 260 265 270  
 Met Arg Glu His Tyr Ala Arg Gly Leu Tyr Ala Thr Gly Arg Phe Tyr  
 275 280 285  
 Glu Lys Lys Lys Lys Ala Glu Ala Ala Asn Ile Tyr Tyr Arg Thr Ala  
 290 295 300  
 Ile Thr Asn Tyr Pro Asp Thr Leu Leu Val Ala Lys Cys Gln Lys Arg  
 305 310 315 320  
 Leu Asp Arg Ile Ser Lys His Thr Ser  
 325

<210> 671  
 <211> 212  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 671  
 Ile Glu Tyr Leu Ser Ile Leu Pro Lys Ile Glu Ile Asn Met Arg Leu  
 1 5 10 15  
 Phe Ser Leu Gly Thr Ile Tyr Leu Phe Phe Ser Leu Ala Leu Ser Ser  
 20 25 30  
 Cys Cys Gly Tyr Ser Ile Leu Asn Ser Pro Tyr His Leu Ser Ser Leu  
 35 40 45

Gly Lys Ser Leu Leu Gln Glu Arg Ile Phe Ile Ala Pro Ile Lys Glu  
 50 55 60  
 Asp Pro His Gly Gln Leu Cys Ser Ala Leu Thr Tyr Glu Leu Ser Lys  
 65 70 75 80  
 Arg Ser Phe Ala Ile Ser Gly Arg Ser Ser Cys Ala Gly Tyr Thr Leu  
 85 90 95  
 Lys Val Glu Leu Leu Asn Gly Ile Asp Lys Asn Ile Gly Phe Thr Tyr  
 100 105 110  
 Ala Pro Asn Lys Leu Gly Asp Lys Thr His Arg His Phe Ile Val Ser  
 115 120 125  
 Asn Glu Gly Arg Leu Ser Leu Ser Ala Lys Val Gln Leu Ile Asn Asn  
 130 135 140  
 Asp Thr Gln Glu Val Leu Ile Asp Gln Cys Val Ala Arg Glu Ser Val  
 145 150 155 160  
 Asp Phe Asp Phe Glu Pro Asp Leu Gly Thr Ala Asn Ala His Glu Phe  
 165 170 175  
 Ala Leu Gly Gln Phe Glu Met His Ser Glu Ala Ile Lys Ser Ala Arg  
 180 185 190  
 Arg Ile Leu Ser Ile Arg Leu Ala Glu Thr Ile Ala Gln Gln Val Tyr  
 195 200 205  
 Tyr Asp Leu Phe  
 210

<210> 672  
 <211> 153  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 672  
 Pro Arg Arg Leu Leu Asn Arg Tyr Thr Met Thr Phe Phe Glu Gly Glu  
 1 5 10 15  
 Thr Val Phe Pro Ala Val Leu Ser Glu Leu His Ser Met Leu Asp Leu  
 20 25 30  
 Ile Lys Arg Ala Gly Lys Gln Ser Lys Cys Pro Gln Glu Lys Leu Leu  
 35 40 45  
 Lys Leu Glu Leu Ala Cys Glu Glu Leu Leu Val Asn Ile Ile Ser Tyr  
 50 55 60  
 Ala Tyr Gln Gly Glu Asn Ser Pro Gly Thr Ile Ala Ile Ser Cys Ile  
 65 70 75 80  
 Ser His Arg Gly Asp Leu Glu Val Val Ile Lys Asp His Gly Pro Ser  
 85 90 95  
 Phe Asn Pro Leu Ala Val Ser Ile Asn Ile Gln Glu Asp Leu Pro Leu  
 100 105 110  
 Glu Gln Arg Lys Leu Gly Gly Leu Gly Ile Phe Leu Ala Lys Ser Ser  
 115 120 125  
 Val Asp Glu Phe Leu Tyr Ala Arg Glu Asp His Cys Asn Ile Val His  
 130 135 140  
 Leu Lys Met Leu Asn Gly Gln His Ser  
 145 150

<210> 673  
 <211> 152  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 673  
 Arg Ile Thr Ile Asn Gln Arg Lys Tyr Thr Met Ser Leu Asp Phe Phe  
 1 5 10 15  
 Glu Glu Phe Tyr His Gln Ser Ile Leu Asn Thr Gly Thr Ser Phe Pro  
 20 25 30

Glu Gly Tyr Leu Asn Ile Ala Glu Ile Leu Ser Tyr Pro His Cys Thr  
 35 40 45  
 Asp Ala Asn Thr Asp Phe Leu Cys Ser Gln Ser Asp Asn Asp Phe Ile  
 50 55 60  
 Ile Ala Glu Ser Lys Asp Lys Leu Thr Leu Phe Asn Ala Asp Phe Ala  
 65 70 75 80  
 Ile Trp Leu Val Pro Glu Leu Val Gln Gly Gln Ala Val Thr Arg Gly  
 85 90 95  
 Tyr Ile Ala Val Ser Gln Gly Glu Gly Asn Tyr Glu Pro Glu Met Ala  
 100 105 110  
 Phe Glu Ala Ser Gly Gln Tyr Asn Gln Ser Ser Leu Ile Leu Glu Ala  
 115 120 125  
 Leu Gln Leu Tyr Leu Lys Asp Ile Lys Asp Thr Glu Asn Ala Leu Arg  
 130 135 140  
 Ser Phe Arg Phe Asn Asn Asp His  
 145 150

<210> 674  
 <211> 442  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 674  
 Thr Ile Lys Ser Pro His Met Lys Arg Pro Phe Phe Thr Tyr Leu Cys  
 1 5 10 15  
 Ile Ile Phe Tyr Gly Ser Cys Ala Ser Leu Ser Leu His Ala Gly Leu  
 20 25 30  
 Ser Phe Pro Glu Val Arg Gly Ala Thr Ala Ala Val Val His Ala Asp  
 35 40 45  
 Ser Gly Lys Val Phe Tyr Asp Lys Asp Ile Asp Ala Val Ile Tyr Pro  
 50 55 60  
 Ala Ser Met Thr Lys Ile Ala Thr Ala Leu Phe Ile Leu Lys His Tyr  
 65 70 75 80  
 Pro Thr Val Leu Asp Thr Leu Ile Lys Val Lys Gln Asp Ala Ile Ala  
 85 90 95  
 Ser Ile Thr Pro Gln Ala Lys Lys Gln Ser Gly Tyr Arg Ser Pro Pro  
 100 105 110  
 His Trp Leu Glu Thr Asp Gly Ser Thr Ile Gln Leu His Leu Arg Glu  
 115 120 125  
 Glu Leu Leu Gly Trp Asp Leu Phe His Ala Leu Leu Val Cys Ser Ala  
 130 135 140  
 Asn Asp Ala Ala Asn Val Leu Ala Met Ala Cys Cys Gly Ser Val Glu  
 145 150 155 160  
 Lys Phe Met Asp Lys Leu Asn Phe Phe Leu Lys Glu Glu Ile Gly Cys  
 165 170 175  
 Thr His Thr His Phe Asn Asn Pro His Gly Leu His His Pro Asn His  
 180 185 190  
 Tyr Thr Thr Thr Arg Asp Leu Ile Ser Ile Met Arg Cys Ala Leu Lys  
 195 200 205  
 Glu Pro Pro Phe Arg Gly Val Ile Ser Thr Thr Ser Tyr Lys Ile Gly  
 210 215 220  
 Ala Thr Asn Leu His Gly Glu Arg Ile Leu Ser Pro Thr Asn Lys Leu  
 225 230 235 240  
 Leu Leu Pro Gly Ser Thr Tyr His Tyr Pro Pro Ala Leu Gly Gly Lys  
 245 250 255  
 Thr Gly Thr Thr Lys Thr Ala Gly Lys Asn Leu Ile Met Ala Ala Glu  
 260 265 270  
 Lys Asn Asn Arg Leu Leu Val Thr Ile Ala Thr Gly Tyr Ser Gly Pro  
 275 280 285  
 Val Ser Asp Leu Tyr Gln Asp Val Ile Ala Leu Cys Glu Thr Val Phe  
 290 295 300

Asn Glu Pro Leu Leu Arg Lys Glu Leu Val Pro Pro Ser Asp Cys Leu  
 305 310 315 320  
 Gln Leu Glu Ile Ala Asn Leu Gly Lys Leu Ser Cys Pro Leu Pro Glu  
 325 330 335  
 Gly Leu Tyr Tyr Asp Phe Tyr Ala Ser Glu Asp Arg Glu Pro Leu Ser  
 340 345 350  
 Val Ser Phe Ile Ala His Ala Asp Ala Phe Pro Ile Glu Gln Gly Asp  
 355 360 365  
 Leu Leu Gly His Trp Val Phe Tyr Asp Asp Glu Gly Lys Lys Ile Ser  
 370 375 380  
 Ser Gln Pro Phe Tyr Ala Pro Cys Arg Phe Glu Arg Thr Ile Lys Pro  
 385 390 395 400  
 Trp Lys Leu Tyr Met Lys Arg Val Phe Thr Ser Tyr Arg Thr Tyr Met  
 405 410 415  
 Ser Ile Thr Met Leu Leu Met Tyr Phe Arg Ile Arg Lys His Arg Lys  
 420 425 430  
 Tyr Lys Asn Leu Lys His Tyr Ser Lys Ile  
 435 440

<210> 675  
 <211> 74  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 675  
 Gly Lys Ser Thr Glu Gly Lys Ala Tyr His Cys Phe Leu Lys Gln Val  
 1 5 10 15  
 Ser Ile Ala Leu Asn Arg Glu Glu Val Trp Asp Asn Pro His His Leu  
 20 25 30  
 Met Phe Ile Leu Met Gln Phe Gln Gln Phe Ser Gly Glu Gln Asp Arg  
 35 40 45  
 Phe Gly Ser Phe Leu Glu Ala Thr Ile Arg Asp Arg Val Ser Phe Leu  
 50 55 60  
 Val Leu Gln Glu Lys Ile Ala Thr Leu Lys  
 65 70

<210> 676  
 <211> 371  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 676  
 Arg Gly Ile Leu Tyr Val Thr Met Val Pro Phe Arg Gln His His Ala  
 1 5 10 15  
 Tyr Gln Leu Leu Lys Gln Leu His Thr Ser Ala Ile Ser Glu Ala Asp  
 20 25 30  
 Arg Val Ser Tyr Tyr Phe Lys Gln Asn Arg Ser Leu Gly Ser Lys Asp  
 35 40 45  
 Arg Gln Trp Ile Gln Asn Ile Ile Phe Asn Ile Leu Arg His Arg Arg  
 50 55 60  
 Leu Leu Glu Thr Leu Ile Leu Asp Ser Gly Glu Gln Val Thr Pro Glu  
 65 70 75 80  
 Ala Leu Val Ala Lys Val Asn Glu Gly Val Leu Glu Asn Leu Asp Ser  
 85 90 95  
 Tyr Ser Ala Ile Pro Trp Pro Val Arg Tyr Ser Ile Ser Asp Asp Leu  
 100 105 110  
 Ala His Phe Leu Val Gln Asp Tyr Gly Glu Glu Gln Ala Glu Glu Ile  
 115 120 125  
 Ala Lys Ile Trp Leu Thr Glu Ala Pro Ile Thr Ile Arg Val Asn Thr  
 130 135 140

Asp Lys Ile Ser Val Lys Glu Leu Gln Glu Lys Leu Glu Tyr Pro Ser  
 145 150 155 160  
 Ser Pro Gly Glu Leu Pro Glu Ala Leu His Phe Ser Lys Arg His Pro  
 165 170 175  
 Leu Gln Ser Thr Glu Ala Phe Arg Arg Gly Phe Phe Glu Ile Gln Asp  
 180 185 190  
 Glu Asn Ser Gln Arg Ile Ser Gln Gly Ile Ser Leu Thr Asp Lys Asp  
 195 200 205  
 Ile Val Leu Asp Phe Cys Ala Gly Ala Gly Lys Ser Leu Ile Phe  
 210 215 220  
 Ala Gln Lys Ala Lys His Val Val Ile Asn Asp Ser Arg Lys Ala Ile  
 225 230 235 240  
 Leu Gln Thr Ala Lys His Arg Leu Leu Arg Ala Gly Ala Arg Asn Phe  
 245 250 255  
 Ser Leu Ala Asp Gln Leu Arg Leu Gly Ser Phe Ser Val Val Ile Val  
 260 265 270  
 Asp Ala Pro Cys Ser Gly Thr Gly Val Phe Arg Arg His Pro Glu His  
 275 280 285  
 Lys Trp Gln Phe Ser Lys Lys Leu Leu Leu Asn Tyr Val Arg Val Gln  
 290 295 300  
 Lys Ser Ile Leu Lys Gln Ala Ser Ala Tyr Val Gly Pro Arg Gly Arg  
 305 310 315 320  
 Leu Val Tyr Ile Thr Cys Ser Leu Leu Lys Glu Glu Asn Glu Ala His  
 325 330 335  
 Val Ala Tyr Met His Ser Leu Gly Trp Lys Glu Val His Arg Lys Thr  
 340 345 350  
 Leu Pro Leu Gln Val Gly Lys Gly Asp Ala Phe Phe Thr Ser His Phe  
 355 360 365  
 Gln Lys Ile  
 370

<210> 677  
 <211> 388  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 677  
 Val Pro Leu Ser Met Ile Leu Asp Phe Gln Phe Ser Ile Gly Tyr Tyr  
 1 5 10 15  
 Leu Arg Val Leu Glu Leu Ala Ile Arg Asp Gly Thr Arg Ile Leu Ala  
 20 25 30  
 Tyr Asp Arg Lys Arg Leu Leu Leu Asp Ala Trp Pro Val Asn Asp Pro  
 35 40 45  
 Leu Pro Thr Asn Tyr Asp Thr Ser Val Ser Thr Ile Arg Gln Val Ile  
 50 55 60  
 His Glu Leu Phe Ser Trp Ser Ala Ile Ser Tyr Ser Ile Ser Ser Arg  
 65 70 75 80  
 Leu Leu Ala Ile Ile Glu Leu Arg Leu His Glu Glu Lys Pro Gln Thr  
 85 90 95  
 Gly Trp Leu Tyr Arg Leu Phe Phe Pro Ser Lys Tyr His Ile Lys Lys  
 100 105 110  
 Ala Ile Val Asp Lys Leu Cys Met Phe Lys Ser Leu Ile Leu Phe Glu  
 115 120 125  
 Ser Lys Arg Pro Val Asp Lys Ile Val Gln Ala Ala Asn Lys Val Phe  
 130 135 140  
 Ser Lys Gly Lys Ser Asn Phe Ser Ser Trp Glu Asp Phe Thr His Glu  
 145 150 155 160  
 Val Thr Val Ser Glu Val Gln Thr Pro Leu Ala Gly Glu Val Gln Arg  
 165 170 175  
 Arg Leu Ala Ala Asp Ala Ser Leu Gln Met Ile Ile Glu Ala Leu Thr  
 180 185 190



Thr Leu Leu Glu Gly His Thr Ala Tyr Leu Pro Leu Ser Leu Glu Leu  
 195 200 205  
 Leu Asn Gln Phe Ile Gly Glu Lys Ala Gln Pro Leu Lys Thr Leu Ser  
 210 215 220  
 Glu Lys Ser Tyr Val Leu Leu Arg Glu Leu Ile Gln Leu Phe Ser Leu  
 225 230 235 240  
 Ser Ala Glu Asp Phe Gln Thr Ile Ile Met Ser Ile Ile Ser Asp Ser  
 245 250 255  
 Leu Ser Glu Val Leu Ala Asn Ser Leu Ile Gly Asn Gln Pro Leu Thr  
 260 265 270  
 Phe His Gly Lys Thr Phe Val Gly Leu Trp Gln Glu Thr Ala Leu Ala  
 275 280 285  
 Ser Pro Glu Asp Ser Lys Leu Ala Leu Gly Phe Leu Ala Glu Val Leu  
 290 295 300  
 Arg Lys Val Ile Val Glu Lys Lys Leu His Val Ser Lys Ser Asp Asn  
 305 310 315 320  
 Thr Thr Pro Glu Glu Val Gly Asn Ile Tyr Ser Ile Arg Asp Gln Asn  
 325 330 335  
 Pro Ala Leu Trp Asp Lys Met Ile Thr Met Leu Leu Met Arg Trp Leu  
 340 345 350  
 Leu Asp Tyr Asp Arg Asp Ile Gly Ile Ala Leu Arg Lys Ala Ala Glu  
 355 360 365  
 Tyr Tyr Asn Pro His Pro Ser Phe Trp Arg Gln Phe Leu Arg Leu Trp  
 370 375 380  
 Gln Arg Arg Pro  
 385

<210> 678  
 <211> 390  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 678  
 Ser Met Gly Thr Pro Ile Ser Gly Asn Asp Gly Asp Arg Asn Thr Ile  
 1 5 10 15  
 Ser Asp Pro Leu Glu Glu Ser Ala Ala Glu Glu Gly Asp Ser Asp Leu  
 20 25 30  
 Glu Asp Arg Val Ser Glu Ser Ala Thr Gln Val Ile Glu Thr Ile Ala  
 35 40 45  
 Asp Thr Gly Ile Pro Glu Ala Thr Pro Ser Glu Gly Thr Asn Ser Asp  
 50 55 60  
 Leu Asn Ser Asp Leu Val Asp Arg Val Glu Tyr Glu Ala Arg Gly Ser  
 65 70 75 80  
 Leu Leu Thr Thr Met Leu Ala Arg Ile Arg Lys Ala Val Ser Gln Ile  
 85 90 95  
 Trp Met His Val Lys Thr Lys Arg His Pro Lys Glu Gln Gly Val Arg  
 100 105 110  
 Ser Leu Gly Asp Ile Pro Cys Asp Leu Leu Lys Ala Thr Arg Leu Pro  
 115 120 125  
 Lys Glu Thr Ala Glu Pro Pro Tyr Phe Tyr Ala Leu Glu Thr Ala Leu  
 130 135 140  
 Ala Ser Cys Arg Ser Phe Phe His Val Phe Leu Arg Leu Phe Thr  
 145 150 155 160  
 Leu Leu Arg Arg Gln His Pro Glu Ala Pro Leu Asp Leu Cys Gly Thr  
 165 170 175  
 Asp Pro Ile Ser Pro Glu Ala Ala Val Ala Phe Ala Leu Ile Leu Arg  
 180 185 190  
 Ser Cys Cys Lys Trp Val Ala Thr Asp Ala Val Gln Glu Gly Leu Pro  
 195 200 205  
 Leu Glu Val Ile Glu Glu Ala Gly Met Tyr Asn Ala Phe Ser Leu Glu  
 210 215 220

Ala Thr Thr Thr Val Glu Glu Val Ser Lys Arg Leu Ser Glu Leu Leu  
 225 230 235 240  
 Tyr Ser Asp Lys Arg Ile Asp Gly Leu Ala Asn Val Arg Gly Ile Thr  
 245 250 255  
 Lys Ile Ile Thr Ser Pro Tyr Leu Gly Ala Gly Gln Cys Val Ser Val  
 260 265 270  
 Val Asp Asn Leu Lys Thr Tyr Asp Leu Gly Arg Asn Tyr Thr Gln Val  
 275 280 285  
 Leu Ala Cys Ala Ser Gln Ile Asp Glu Phe Ala Asp Lys Gly Glu Asn  
 290 295 300  
 Glu Ala Leu Val Met Lys Asp Ile Leu Tyr Leu Val Arg Gln Asp Arg  
 305 310 315 320  
 Ser Lys Glu Leu Gly Asp Phe Leu Met Met Trp Ser Glu Glu His Ala  
 325 330 335  
 Ser Glu Val Asn Tyr Asp Val Val Leu Ala Ile Leu Glu Val Asn Leu  
 340 345 350  
 Pro Ile Leu Glu Glu Asp Tyr Arg Ser His Pro Leu Ala Tyr Gln Lys  
 355 360 365  
 Lys Leu Asn Tyr Val Ile Cys Gln Phe Phe Cys Ser Glu Arg Leu Thr  
 370 375 380  
 Ser Ile Glu Pro Lys Asp  
 385 390

<210> 679

<211> 385

<212> PRT

<213> Chlamydia pneumoniae

<400> 679

Arg Ile Ala Met Gly Ile Asn Pro Ser Gly Asn Arg Ser Pro Asp Asp  
 1 5 10 15  
 Val Trp Val Arg Gly Ala Gln Gly Asp Ser Ser Ser Thr Gln Gly Thr  
 20 25 30  
 Gly Ala Thr Asn Ser Asn Leu Gly Ala His Asn Val Thr Thr Ser Thr  
 35 40 45  
 Ser Gln Pro Gln Val Ala Ser Lys Ala Lys Gln Leu Trp Gln Thr Val  
 50 55 60  
 Arg Glu Phe Phe Leu Gly Lys Lys Ser Pro Asp Ser Ser Gln Gly Ala  
 65 70 75 80  
 Ser Gly Pro Ala Met Gln Ser Pro Ser Gly Pro Thr Ile Arg Pro Thr  
 85 90 95  
 Arg Pro Ala Pro Pro Pro Pro Thr Thr Gly Gly Ala Asn Ala Lys Arg  
 100 105 110  
 Pro Ala Thr His Gly Lys Gly Arg Ala Pro Gln Pro Pro Thr Ala Gly  
 115 120 125  
 Ser Ser Ser Gly Ser Glu Gln Pro Thr Ala Met Ser Ser Glu Val Ala  
 130 135 140  
 Lys Leu Val Ser Glu Leu Lys Asp Ala Val His Ser His Ala Glu Ser  
 145 150 155 160  
 Gln Lys Val Leu Lys Lys Val Ser Gln Glu Leu Gln Thr Lys Trp Thr  
 165 170 175  
 Asp Trp Glu Asn Asn Arg Gly Pro Asp Tyr Leu Leu His Gly Tyr Arg  
 180 185 190  
 Val Ile Ala Arg Ala Leu Gln Gln Thr Tyr Thr Glu Gln Ser Met Leu  
 195 200 205  
 Ile Glu Gly Thr Ser Ser Thr Gly Pro Val Pro Gln Ala Val Thr Val  
 210 215 220  
 Ala Lys Asp Ala Val Thr Gln Thr Val Arg Gly Ala Ile Lys Asn Leu  
 225 230 235 240  
 Glu Asn Pro Lys Pro Gly Asn Asp Pro Asp Gly Val Leu Met Gln Val  
 245 250 255

Val Ile Ser Leu Gly Ile Glu Gly Pro Thr Leu Asp Pro Gly Glu Ser  
 260 265 270  
 Ile Gln Asn Phe Leu Glu Thr Arg Val Ser Asp Phe Gly Gly Asp Asp  
 275 280 285  
 Ser Asp Ile Asp Tyr Thr Ser Asp Ile Ala Arg Leu Gly Ser Ala Leu  
 290 295 300  
 Asp Arg Val Arg Glu Asn His Pro Asn Glu Met Pro Arg Ile Trp Ile  
 305 310 315 320  
 Ala Leu Ala Arg Glu Leu Gly Ala Ala Val His Ser His Ala Thr Ser  
 325 330 335  
 Val Arg Ile Ala Asn Ala Gly Lys Asn His Thr Arg Asp Val Val Arg  
 340 345 350  
 Met Ala Asn Glu Ser Ser Arg Leu Leu Gln Gly Met Lys Val Leu Ser  
 355 360 365  
 Val Gly Ala Trp Ala Asn Thr Met Thr Val Leu Ile Gly Asp Leu Phe  
 370 375 380  
 Glu  
 385

<210> 680  
 <211> 216  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 680  
 Lys Ile Ile Met Ser Val Asn Pro Ser Gly Asn Ser Lys Asn Asp Leu  
 1 5 10 15  
 Trp Ile Thr Gly Ala His Asp Gln His Pro Asp Val Lys Glu Ser Gly  
 20 25 30  
 Val Thr Ser Ala Asn Leu Gly Ser His Arg Val Thr Ala Ser Gly Gly  
 35 40 45  
 Arg Gln Gly Leu Leu Ala Arg Ile Lys Glu Ala Val Thr Gly Phe Phe  
 50 55 60  
 Ser Arg Met Ser Phe Phe Arg Ser Gly Ala Pro Arg Gly Ser Gln Gln  
 65 70 75 80  
 Pro Ser Ala Pro Ser Ala Asp Thr Val Arg Ser Pro Leu Pro Gly Gly  
 85 90 95  
 Asp Ala Arg Ala Thr Glu Gly Ala Gly Arg Asn Leu Ile Lys Lys Gly  
 100 105 110  
 Tyr Gln Pro Gly Met Lys Val Thr Ile Pro Gln Val Pro Gly Gly Gly  
 115 120 125  
 Ala Gln Arg Ser Ser Gly Ser Thr Thr Leu Lys Pro Thr Arg Pro Ala  
 130 135 140  
 Pro Pro Pro Pro Lys Thr Gly Gly Thr Asn Ala Lys Arg Pro Ala Thr  
 145 150 155 160  
 His Gly Lys Gly Pro Ala Pro Gln Pro Pro Lys Thr Gly Gly Thr Asn  
 165 170 175  
 Ala Lys Arg Ala Ala Thr His Gly Lys Gly Pro Ala Pro Gln Pro Pro  
 180 185 190  
 Lys Gly Ile Leu Lys Gln Pro Gly Gln Ser Gly Thr Ser Gly Lys Lys  
 195 200 205  
 Arg Val Ser Trp Ser Asp Glu Asp  
 210 215

<210> 681  
 <211> 404  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 681

Gly	Tyr	Met	Asp	Lys	Leu	Thr	Val	Gln	Asp	Leu	Ser	Pro	Glu	Glu	Lys
1				5					10					15	
Lys	Val	Leu	Val	Arg	Val	Asp	Phe	Asn	Val	Pro	Met	Gln	Asp	Gly	Lys
		20						25					30		
Ile	Leu	Asp	Asp	Ile	Arg	Ile	Arg	Ser	Ala	Met	Pro	Thr	Ile	Asn	Tyr
		35					40					45			
Leu	Leu	Lys	Lys	His	Ala	Ala	Val	Ile	Leu	Met	Ser	His	Leu	Gly	Arg
		50				55					60				
Pro	Lys	Gly	Gln	Gly	Phe	Gln	Glu	Glu	Tyr	Ser	Leu	Gln	Pro	Val	Val
65					70					75				80	
Asp	Val	Leu	Glu	Gly	Tyr	Leu	Gly	His	His	Val	Pro	Leu	Ala	Pro	Asp
				85					90					95	
Cys	Val	Gly	Glu	Val	Ala	Arg	Gln	Ala	Val	Ala	Gln	Leu	Ser	Pro	Gly
			100					105					110		
Arg	Val	Leu	Leu	Glu	Asn	Leu	Arg	Phe	His	Ile	Gly	Glu	Glu	His	
		115				120						125			
Pro	Glu	Lys	Asp	Pro	Thr	Phe	Ala	Ala	Glu	Leu	Ser	Ser	Tyr	Gly	Asp
		130				135						140			
Phe	Tyr	Val	Asn	Asp	Ala	Phe	Gly	Thr	Ser	His	Arg	Lys	His	Ala	Ser
145					150					155				160	
Val	Tyr	Val	Val	Pro	Gln	Ala	Phe	Pro	Gly	Arg	Ala	Ala	Ala	Gly	Leu
				165					170					175	
Leu	Met	Glu	Lys	Glu	Leu	Glu	Phe	Leu	Gly	Arg	His	Leu	Leu	Thr	Ser
			180					185					190		
Pro	Lys	Arg	Pro	Phe	Thr	Ala	Ile	Leu	Gly	Gly	Ala	Lys	Ile	Ser	Ser
		195				200						205			
Lys	Ile	Gly	Val	Ile	Glu	Ala	Leu	Leu	Asn	Gln	Val	Asp	Tyr	Leu	Leu
		210				215					220				
Leu	Ala	Gly	Gly	Met	Gly	Phe	Thr	Phe	Leu	Gln	Ala	Leu	Gly	Lys	Ser
225					230					235				240	
Leu	Gly	Asn	Ser	Leu	Val	Glu	Lys	Ser	Ala	Leu	Asp	Leu	Ala	Arg	Asn
			245						250					255	
Val	Leu	Lys	Ile	Ala	Lys	Ser	Arg	Asn	Val	Thr	Ile	Val	Leu	Pro	Ser
			260					265					270		
Asp	Val	Lys	Ala	Ala	Glu	Asn	Leu	Gln	Ser	Lys	Glu	Tyr	Ser	Val	Ile
		275					280					285			
Ser	Ile	Asp	Gln	Gly	Ile	Pro	Pro	His	Leu	Gln	Gly	Phe	Asp	Ile	Gly
		290				295					300				
Pro	Arg	Thr	Thr	Glu	Glu	Phe	Ile	Arg	Ile	Ile	Asn	Gln	Ser	Ala	Thr
305					310					315				320	
Val	Phe	Trp	Asn	Gly	Pro	Val	Gly	Val	Tyr	Glu	Val	Pro	Pro	Phe	Asp
			325						330					335	
Ser	Gly	Ser	Ile	Ala	Ile	Ala	Asn	Ala	Leu	Gly	Asn	His	Pro	Ser	Ala
			340					345				350			
Val	Thr	Val	Val	Gly	Gly	Gly	Asp	Ala	Ala	Ala	Val	Val	Ala	Leu	Ala
		355					360					365			
Gly	Cys	Ser	Thr	Lys	Val	Ser	His	Val	Ser	Thr	Gly	Gly	Gly	Ala	Ser
		370				375					380				
Leu	Glu	Phe	Leu	Glu	Gln	Gly	Phe	Leu	Pro	Gly	Thr	Glu	Val	Leu	Ser
385					390					395				400	
Pro	Ser	Lys	Ser												

<210> 682

<211> 428

<212> PRT

<213> Chlamydia pneumoniae

<400> 682  
 Tyr Ser Met Leu Pro Leu Ile Ile Phe Val Leu Leu Cys Gly Phe Tyr  
 1 5 10 15  
 Thr Ser Trp Asn Ile Gly Ala Asn Asp Val Ala Asn Ala Val Gly Pro  
 20 25 30  
 Ser Val Gly Ser Gly Val Leu Thr Leu Arg Gln Ala Val Val Ile Ala  
 35 40 45  
 Ala Ile Phe Glu Phe Phe Gly Ala Leu Leu Leu Gly Asp Arg Val Ala  
 50 55 60  
 Gly Thr Ile Glu Ser Ser Ile Val Ser Val Thr Asn Pro Met Ile Ala  
 65 70 75 80  
 Ser Gly Asp Tyr Met Tyr Gly Met Thr Ala Ala Leu Leu Ala Thr Gly  
 85 90 95  
 Val Trp Leu Gln Leu Ala Ser Phe Phe Gly Trp Pro Val Ser Thr Thr  
 100 105 110  
 His Ser Ile Val Gly Ala Val Ile Gly Phe Gly Leu Val Leu Gly Lys  
 115 120 125  
 Gly Thr Ile Ile Tyr Trp Asn Ser Val Gly Ile Ile Leu Ile Ser Trp  
 130 135 140  
 Ile Leu Ser Pro Phe Met Gly Gly Cys Val Ala Tyr Leu Ile Phe Ser  
 145 150 155 160  
 Phe Ile Arg Arg His Ile Phe Tyr Lys Asn Asp Pro Val Leu Ala Met  
 165 170 175  
 Val Arg Val Ala Pro Phe Leu Ala Ala Leu Val Ile Met Thr Leu Gly  
 180 185 190  
 Thr Val Met Ile Ser Gly Gly Val Ile Leu Lys Val Ser Ser Thr Pro  
 195 200 205  
 Trp Ala Val Ser Gly Val Leu Val Cys Gly Leu Leu Ser Tyr Ile Ile  
 210 215 220  
 Thr Phe Tyr Tyr Val His Thr Lys His Cys Ser Tyr Ile Ser Asp Thr  
 225 230 235 240  
 Pro Lys Lys Gly Ser Leu Thr Tyr Arg Leu Lys Glu Arg Gly Gly Asn  
 245 250 255  
 Tyr Gly Arg Lys Tyr Leu Val Val Glu Arg Ile Phe Ala Tyr Leu Gln  
 260 265 270  
 Ile Ile Val Ala Cys Phe Met Ala Phe Ala His Gly Ser Asn Asp Val  
 275 280 285  
 Ala Asn Ala Ile Ala Pro Val Ala Gly Val Leu Arg Gln Ala Tyr Pro  
 290 295 300  
 Ala Ser Tyr Thr Ser Tyr Thr Leu Ile Arg Leu Met Ala Phe Gly Gly  
 305 310 315 320  
 Ile Gly Leu Val Ile Gly Leu Ala Ile Trp Gly Trp Arg Val Ile Glu  
 325 330 335  
 Thr Val Gly Cys Lys Ile Thr Glu Leu Thr Pro Ser Arg Gly Phe Ser  
 340 345 350  
 Val Gly Met Gly Ser Ala Leu Thr Ile Ala Leu Ala Ser Ile Leu Gly  
 355 360 365  
 Leu Pro Ile Ser Thr Thr His Val Val Val Gly Ala Val Leu Gly Ile  
 370 375 380  
 Gly Leu Ala Arg Gly Ile Arg Ala Ile Asn Leu Asn Ile Ile Lys Asp  
 385 390 395 400  
 Ile Val Leu Ser Trp Phe Ile Thr Leu Pro Ala Gly Ala Leu Leu Ser  
 405 410 415  
 Ile Leu Phe Phe Phe Ala Leu Arg Ala Leu Phe His  
 420 425

<210> 683

<211> 248

<212> PRT

<213> Chlamydia pneumoniae

<400> 683

Asn Gly Ile Arg Ser His Lys Ser Phe Thr Arg Ser Phe Arg Gln Val  
 1 5 10 15  
 Ile Ile Ala Lys Lys Ala Ile Leu Met Gln Thr Leu Ala Arg Leu Phe  
 20 25 30  
 Gly Gln Ser Pro Phe Ala Pro Leu Gln Ala His Leu Glu Met Val Val  
 35 40 45  
 Ser Cys Val Glu Tyr Met Leu Pro Ile Phe Thr Ala Leu Arg Asp Gly  
 50 55 60  
 Arg Tyr Glu Glu Leu Leu Glu Met Ala Lys Leu Val Ser Asp Lys Glu  
 65 70 75 80  
 Tyr Gln Ala Asp Cys Ile Lys Asn Asp Met Arg Asn His Leu Pro Ala  
 85 90 95  
 Gly Leu Phe Met Pro Ile Ser Arg Ala Gly Ile Leu Glu Ile Ile Ser  
 100 105 110  
 Ile Gln Asp Ser Ile Ala Asp Thr Ala Glu Asp Val Ala Ile Leu Leu  
 115 120 125  
 Thr Ile Arg Arg Leu Asn Phe Tyr Pro Ser Met Glu Thr Leu Phe Phe  
 130 135 140  
 Arg Phe Leu Glu Lys Asn Leu Glu Ala Phe Glu Leu Thr Met Thr Leu  
 145 150 155 160  
 Leu His Glu Phe Asn Gln Leu Leu Glu Ser Ser Phe Gly Gly Arg Lys  
 165 170 175  
 Ala Asp Lys Ala Arg Leu Leu Val Gly Arg Val Ala Lys Ser Glu His  
 180 185 190  
 Glu Ser Asp Val Leu Gln Arg Glu Leu Met Gln Ile Phe Phe Ser Asp  
 195 200 205  
 Asp Phe Ile Ile Pro Glu Lys Glu Phe Tyr Leu Trp Leu Gln Val Ile  
 210 215 220  
 Arg Arg Thr Ala Gly Ile Ser Asp Ser Ser Glu Lys Leu Ala His Arg  
 225 230 235 240  
 Ile Asn Met Thr Leu Glu Lys  
 245

<210> 684  
 <211> 348  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 684

Thr Ser Lys Gly Leu His Lys Asn Ser Leu Phe Arg Asn Asn Asn Leu  
 1 5 10 15  
 Pro Lys Arg Ser Cys Lys Arg Leu Met Ala Ser Asn Pro Ile Leu Gln  
 20 25 30  
 Ile Glu Asp Leu Ser Ile Thr Leu Ala Lys Gln Arg Gln Gln Tyr Pro  
 35 40 45  
 Ile Val Gln Ser Leu Ser Phe Thr Ile Asn Glu Gly Gln Thr Leu Ala  
 50 55 60  
 Ile Ile Gly Glu Ser Gly Ser Gly Lys Ser Val Ser Ala His Ala Ile  
 65 70 75 80  
 Leu Arg Leu Leu Pro Cys Pro Pro Phe Ser Val Ser Gly Gln Val Asn  
 85 90 95  
 Phe Gln Gly His Asn Leu Leu Thr Ala Ser Arg Ser Ile Gln Lys Lys  
 100 105 110  
 Ile Ile Gly Thr Glu Ile Ser Met Ile Phe Gln Asn Pro Gln Ala Ser  
 115 120 125  
 Leu Asn Pro Val Phe Thr Ile Glu Gln Gln Phe Arg Glu Ile Ile His  
 130 135 140 145  
 Thr His Leu Ala Leu Thr Ala Glu Val Ala Lys Glu Lys Met Leu Tyr  
 150 155 160

Ala Leu Glu Glu Thr Gly Phe His Asp Pro Arg Leu Cys Leu Asn Leu  
165 170 175  
Tyr Pro His Gln Leu Ser Gly Gly Met Leu Gln Arg Ile Cys Ile Ala  
180 185 190  
Met Ala Leu Leu Cys Ser Pro Lys Leu Leu Ile Ala Asp Glu Pro Thr  
195 200 205  
Thr Ala Leu Asp Val Ser Val Gln Tyr Gln Ile Leu Gln Leu Leu Lys  
210 215 220  
Thr Leu Gln Lys Lys Thr Gly Met Ser Leu Leu Ile Ile Thr His Asn  
225 230 235 240  
Met Gly Val Val Ala Glu Thr Ala Asp Asp Val Leu Val Leu Tyr Ala  
245 250 255  
Gly Arg Met Val Glu Cys Ala Pro Ala Val Gln Met Phe His Asn Pro  
260 265 270  
Ser His Pro Tyr Thr Arg Asp Leu Leu Ala Ser Arg Pro Ser Leu Gln  
275 280 285  
Pro Gln Gln Leu Gly Ser Phe Asn Pro Ile Pro Gly Gln Pro Pro His  
290 295 300  
Tyr Thr Ala Phe Pro Ser Gly Cys Arg Tyr His Pro Arg Cys Ser Lys  
305 310 315 320  
Ile Leu Asn Arg Cys Ser Ala Glu Ala Pro Glu Ile Tyr Pro Val Arg  
325 330 335  
Glu Gly His Lys Val Arg Cys Trp Leu Tyr Asp Asp  
340 345

<210> 685  
<211> 328  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 685  
Gly Val Gly Cys Met Thr Thr Asn Phe Pro Gln Pro Leu Ile Gln Ala  
1 5 10 15  
Thr Ser Leu Thr Lys His Tyr Tyr Lys Arg Ser Phe Trp Phe Gln Gly  
20 25 30  
Lys Thr Ile Ala Ser Arg Pro Val Asp Asp Val Ser Phe Ser Leu Tyr  
35 40 45  
Ser Arg Arg Ala Val Gly Leu Ile Gly Glu Ser Gly Ser Gly Lys Ser  
50 55 60  
Thr Leu Ala Leu Ala Leu Ala Gly Leu Leu Pro Leu Thr Ser Gly Phe  
65 70 75 80  
Leu Thr Phe Asn Gly Thr Pro Ile Lys Leu His Ser Lys His Gly Arg  
85 90 95  
His Gln Leu Arg Ser Gln Val Arg Leu Val Phe Gln Asn Pro Gln Ala  
100 105 110  
Ser Leu Asn Pro Arg Lys Thr Ile Leu Asp Ser Leu Gly His Ser Leu  
115 120 125  
Leu Tyr His Lys Leu Val Pro Lys Glu Lys Val Leu Ala Thr Val Arg  
130 135 140  
Glu Tyr Leu Glu Leu Val Gly Leu Ser Glu Glu Tyr Phe Tyr Arg Tyr  
145 150 155 160  
Pro His Gln Leu Ser Gly Gly Gln Gln Gln Arg Val Ser Ile Ala Arg  
165 170 175  
Ala Leu Leu Gly Val Pro Gln Leu Ile Ile Cys Asp Glu Ile Val Ser  
180 185 190  
Ala Leu Asp Leu Ser Ile Gln Ala Gln Ile Leu Asn Met Leu Ala Glu  
195 200 205  
Leu Gln Lys Lys Leu Ser Leu Thr Tyr Leu Phe Ile Ser His Asp Leu  
210 215 220  
Ala Val Val Arg Ser Phe Cys Thr Glu Val Phe Ile Met Tyr Lys Gly  
225 230 235 240

Gln Ile Val Glu Lys Gly Asn Thr Lys Arg Ile Phe Ser Asp Pro Gln  
 245 250 255  
 His Pro Tyr Thr Arg Met Leu Leu Asn Ala Gln Leu Pro Glu Thr Pro  
 260 265 270  
 Asp Gln Arg Gln Ser Lys Pro Ile Phe Gln Glu Tyr His Lys Asp Ser  
 275 280 285  
 Glu Glu Ser Cys Ser Thr Gly Cys Tyr Phe Tyr Asn Arg Cys Pro Gln  
 290 295 300  
 Lys Gln Glu Ala Cys Lys Ser Glu Ile Ile Pro Asn Gln Gly Asp Ala  
 305 310 315 320  
 His His Thr Tyr Arg Cys Ile His  
 325

<210> 686

<211> 292

<212> PRT

<213> Chlamydia pneumoniae

<400> 686

Glu Lys Ser Gly Asp Ile Val Thr Glu Glu Ile Ser Lys Asp Thr Ile  
 1 5 10 15  
 Ile Glu Val Ala Ile Asp Asp Ile Arg Val Ser Pro Phe Gln Pro Arg  
 20 25 30  
 Arg Val Phe Ser Asn Glu Glu Leu Gln Glu Leu Ile Ala Ser Ile Lys  
 35 40 45  
 Ala Val Gly Leu Ile His Pro Pro Val Val Arg Glu Ile Cys Thr Gly  
 50 55 60  
 Asp Arg Val Leu Tyr Tyr Glu Leu Ile Ala Gly Glu Arg Arg Trp Arg  
 65 70 75 80  
 Ala Met Gln Leu Ala Gly Ala Thr Thr Ile Pro Val Ile Leu Lys His  
 85 90 95  
 Val Ile Ala Asp Gly Thr Ala Ala Glu Ala Thr Leu Ile Glu Asn Ile  
 100 105 110  
 Gln Arg Val Asn Leu Asn Pro Ile Glu Met Ala Glu Ala Phe Lys Arg  
 115 120 125  
 Leu Ile His Val Phe Gly Leu Thr Gln Asp Lys Val Ala Tyr Lys Val  
 130 135 140  
 Gly Lys Lys Arg Ser Thr Val Ala Asn Tyr Leu Arg Leu Leu Ala Leu  
 145 150 155 160  
 Ser Lys Thr Ile Gln Glu Ser Leu Leu Gln Gly Gln Ile Thr Leu Gly  
 165 170 175  
 His Ala Lys Val Ile Leu Thr Leu Glu Asp Pro Ile Leu Arg Glu Lys  
 180 185 190  
 Leu Asn Glu Ile Ile Ile Gln Glu His Leu Ala Val Arg Glu Ala Glu  
 195 200 205  
 Leu Ile Ala Lys Gln Leu Ile Ser Glu Glu Gly Ser Ser Ile Glu Leu  
 210 215 220  
 Lys Pro Thr Pro Leu Asp Met Ala Glu Ser Ser Lys Gln His Glu Glu  
 225 230 235 240  
 Leu Gln Gln Arg Leu Ser Asp Leu Cys Gly Tyr Lys Val Gln Ile Lys  
 245 250 255  
 Thr Arg Gly Ser Lys Ala Thr Val Ser Phe His Leu Gln Asn Thr Gln  
 260 265 270  
 Asp Leu Gln Lys Leu Glu Ala Trp Leu Ser Ser His Gly Thr Leu Ser  
 275 280 285  
 Glu Ser Leu Ser  
 290



<210> 687  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 687  
 Phe Pro Gln Ser Gln Tyr Leu Leu Ile Phe Pro Asn Arg Ile Leu Asp  
 1 5 10 15  
 Leu Gln Ala Phe Glu Ile Leu Asp Val Gln Gly Met Leu Thr Asp Gln  
 20 25 30  
 Arg Lys His Ile Gln Met Leu His Lys His Asn Ser Ile Glu Ile Phe  
 35 40 45  
 Leu Ser Asn Met Val Val Glu Val Lys Leu Phe Phe Lys Thr Leu Lys  
 50 55 60

<210> 688  
 <211> 66  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 688  
 Ala Lys Asp Ser Met Met Arg Gly Gly Arg Leu Phe Arg Val Tyr Gln  
 1 5 10 15  
 Glu Leu Phe Phe Ser Ser Val Tyr Val Cys Glu Gln Arg Arg Pro  
 20 25 30  
 Arg Lys Leu Tyr Pro Ser Leu Gln His Leu Asn Phe Pro Ile Glu Lys  
 35 40 45  
 Pro Arg Phe Leu Leu Lys Gly Phe Lys Lys Glu Leu His Phe Tyr Asn  
 50 55 60  
 His Val  
 65

<210> 689  
 <211> 238  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 689  
 Arg Lys Ile His Lys Asn Leu Arg His Ala Tyr Arg Phe Ser Thr Pro  
 1 5 10 15  
 Asn Cys Arg Ser Phe Met Gln Lys Leu Val His Asn Ile Trp Lys Lys  
 20 25 30  
 Phe Tyr Ser Phe Ser Ser Ala Ile Ala Ile Cys Ile Val Leu Ala Ser  
 35 40 45  
 Phe Leu Ser Leu Lys Ile Val Ser Asn Thr Tyr Lys His Ser Gln Ala  
 50 55 60  
 Lys Arg Asn Ser Ile Leu Leu Leu Thr Arg Ala Ala Glu Val Ala Val  
 65 70 75 80  
 Ser Gln Gly Phe Leu Pro Ser Lys Ser Ala Leu Ser Ser Leu Glu Gln  
 85 90 95  
 Ala Tyr His Leu Gly Gly Glu Ser Met Lys Pro Tyr Ala Gly Phe Leu  
 100 105 110  
 Ala Ser Cys Phe Tyr Ile His Asn Glu Pro Leu Arg Gly Ala Tyr Tyr  
 115 120 125  
 Ala Gly Leu Ala Tyr Asn Asn Ser Gln Ala Leu Gln Leu Pro His Pro  
 130 135 140  
 Ile Gln Lys Leu Leu Lys Glu Ile Ser Glu Ala Gln Ala Asp Gln Leu  
 145 150 155 160  
 Tyr Asp Val Ala Leu Ser Lys Ser Tyr Gln Leu Leu Gln Thr Ala Asn  
 165 170 175

Ser Ser Pro Glu Tyr Pro Thr Leu Ser Phe Leu Thr Leu Leu Arg Val  
180 185 190  
Ile Glu Leu Lys Glu Leu Leu His Gln Asp Val Ser Gln Asp Phe Ala  
195 200 205  
Ala Leu Lys Ser Ser Pro Leu Phe His Gln Phe Glu Arg Met Tyr Ser  
210 215 220  
Asp Gly Glu Trp Thr Leu Ser Lys Arg Phe Gly Lys Lys Gly  
225 230 235

<210> 690  
<211> 254  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 690  
Ser Leu Met Leu Ile Val Leu Ala Phe Arg Gln Val Phe Phe Ser His  
1 5 10 15  
Ser Arg Ser Gln Leu Asp Arg Leu Lys Asn Tyr Leu Arg Leu Leu Lys  
20 25 30  
Gln Asn Phe Ala Ile Thr Leu Pro Lys Glu Arg Thr Ser Lys Gly His  
35 40 45  
Ser Leu Met Leu Thr Phe Asp Phe Ala Ser Phe Asp Phe Tyr Thr Asn  
50 55 60  
Ile Phe Pro Phe Leu Glu Gln Lys Ile Pro Ala Val Val Gly Val  
65 70 75 80  
Ala Ser Arg Tyr Ile Pro Ser Asn Ala Ala Gln Asp Leu His Pro Ser  
85 90 95  
His Arg Leu Lys Pro Ser Glu Thr Leu Ala Phe Gln Asp Glu Ile Phe  
100 105 110  
Ser Asn Tyr Met Pro Phe Cys Cys Gln Asn Glu Leu Ile Glu Met Ala  
115 120 125  
Lys Ser Pro Tyr Ile Gln Leu Ala Ser Ser Gly Phe Ala Ile Arg Asn  
130 135 140  
Leu Met Asn Asn Pro Pro Tyr Leu Thr Thr Glu Ile Leu Leu Ser Arg  
145 150 155 160  
His His Ile Glu Thr Ile Thr Gly Ala Lys Pro Leu Ala Phe Leu Phe  
165 170 175  
Pro Phe Gly Lys Ser Asp Pro Thr Ser Arg Lys Leu Ala Ala Asp His  
180 185 190  
Tyr Pro Tyr Ser Phe Leu Leu Gly Asn Thr Ile Asn Arg Lys Leu Lys  
195 200 205  
Thr His Asn Ile Tyr Arg Leu Asp Ile Lys Pro Met Gln Tyr Val Cys  
210 215 220  
Pro Ser Leu Phe Gln Ser Ser Arg Tyr Leu Lys Asn Trp Ile Lys Glu  
225 230 235 240  
Lys Ser Lys Gln Leu Tyr Leu Lys Lys Gln Leu Pro Lys Arg  
245 250

<210> 691  
<211> 407  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 691  
Ser Val Lys Asn Leu Lys Glu Asp Phe Pro Ile Phe Ala Ala Lys Ala  
1 5 10 15  
Lys Glu Asn Glu Pro Phe Ile Tyr Leu Asp Ser Ala Ala Thr Thr Gln  
20 25 30  
Lys Pro Gln Gln Val Ile Asp Ala Val Ala Asn Phe Tyr Thr Ser Ser  
35 40 45

Tyr Ala Thr Val Asn Arg Ala Ile Tyr Ser Ser Ser Arg Asn Val Thr  
 50 55 60  
 Glu Ala Tyr Ala Ala Val Arg Glu Lys Val Arg Lys Trp Val Ser Ala  
 65 70 75 80  
 Ala Ser Asp Ser Glu Ile Val Phe Thr Arg Gly Thr Thr Ala Gly Leu  
 85 90 95  
 Asn Leu Leu Ala Ile Ser Val Asn Asp Leu Trp Ile Pro Lys Gly Gly  
 100 105 110  
 Val Val Leu Val Ser Glu Ala Glu His His Ala Asn Val Leu Ser Trp  
 115 120 125  
 Glu Ile Ala Cys Arg Arg Arg Gly Ser Leu Val Lys Lys Ile Arg Val  
 130 135 140  
 His Asp Ser Gly Leu Ile Asp Leu Asp Asp Leu Glu Lys Leu Leu Asn  
 145 150 155 160  
 Glu Gly Ala Gln Phe Val Ser Ile Pro His Val Ser Asn Val Thr Gly  
 165 170 175  
 Cys Val Gln Pro Leu Gln Gln Val Ala Glu Leu Val His Arg Tyr Asp  
 180 185 190  
 Ala Tyr Leu Ala Val Asp Gly Ala Gln Gly Ala Pro His Leu Pro Ile  
 195 200 205  
 Asp Val Gln Leu Trp Asp Val Asp Phe Tyr Val Phe Ser Ser His Lys  
 210 215 220  
 Ile Tyr Gly Pro Thr Gly Ile Gly Val Leu Tyr Gly Lys Lys Asp Leu  
 225 230 235 240  
 Leu Asp Gln Leu Pro Pro Val Glu Gly Gly Gly Asp Met Val Ala Ile  
 245 250 255  
 Tyr Asp His Gln Asn Pro Glu Tyr Leu Pro Ala Pro Met Lys Phe Glu  
 260 265 270  
 Ala Gly Thr Pro Asn Ile Ala Gly Val Leu Gly Leu Gly Ala Ala Leu  
 275 280 285  
 Asp Tyr Leu Asp Gly Leu Ser Ala Lys Phe Ile Tyr Asp Lys Glu Ile  
 290 295 300  
 Ala Leu Thr Thr Tyr Leu His Lys Glu Leu Leu Glu Ile Pro Gly Val  
 305 310 315 320  
 Glu Ile Leu Gly Pro Ser Ile Glu Glu Pro Arg Gly Ala Leu Ile Gly  
 325 330 335  
 Met Thr Ile Asp Gly Ala His Pro Leu Asp Leu Gly Phe Leu Leu Asp  
 340 345 350  
 Leu Arg Gly Ile Ala Val Arg Thr Gly His Gln Cys Ala Gln Pro Ala  
 355 360 365  
 Met Glu Arg Trp Asn Val Gly His Val Leu Arg Val Ser Leu Gly Ile  
 370 375 380  
 Tyr Asn Asp Glu Asp Asp Ile Asp Gln Phe Ile Leu Val Leu Gln Asp  
 385 390 395 400  
 Ser Leu Asp Lys Ile Arg Arg  
 405

<210> 692

<211> 423

<212> PRT

<213> Chlamydia pneumoniae

<400> 692

Leu Ser Val Leu Arg Gly Asp Lys Val Leu Val Ser Ile Glu Thr Phe  
 1 5 10 15  
 Ser Ser Ile Ala Ser Gly Ser Pro Val Gln Lys Ala Ala Glu Ala Cys  
 20 25 30  
 Tyr Thr Gln Tyr Ser Lys Gln Pro Ser Ser Lys Glu Val Leu Ser Ser  
 35 40 45  
 Phe Ser Trp Ile Gln Glu Leu Ser Leu Phe Pro Asp Arg Tyr Asn Leu  
 50 55 60

Ala Thr Gly Ala Ser Glu Leu Ile Lys Gln His Trp Leu His Asn Asn  
 65 70 75 80  
 His Ser Leu Ala Phe Glu Cys Ile Leu Ile Asn Gly Lys Tyr Glu Pro  
 85 90 95  
 Ser Leu Ser Gln Leu Pro Glu Gly Val Ile Val Cys Gly Ile Asp Glu  
 100 105 110  
 Ala Arg Gly Ser Leu Ser Ser Phe Met Gln Gly Phe Asp Val Asn Lys  
 115 120 125  
 His Pro Leu Ala Phe Leu Asn Ala Val Cys Ser Glu Asp Arg Gly Val  
 130 135 140  
 Val Ile Tyr Ile Pro Glu Glu Met Gln Thr Ser Asp Pro Ile Phe Val  
 145 150 155 160  
 Arg His Ile Ser Phe Pro Thr Val Ser Asp His Asp Val Ile Phe Ser  
 165 170 175  
 Pro Arg Ile Val Val Ile Leu Gly Gln Arg Ala Ser Ala Gln Ile Gln  
 180 185 190  
 Ile Ser His Asp Val Asp Leu Glu Met Val Gly Ser Ser Lys Thr Ile  
 195 200 205  
 Val Asn Gly Val Thr Glu Leu Phe Val Gly Glu Gly Ala Asp Leu Thr  
 210 215 220  
 Val Phe Met Val Pro Gly Tyr Ser Glu Glu Asp Thr Leu Ser Trp Ser  
 225 230 235 240  
 Thr Ile Ala Thr Val Glu Lys Asp Ala Ile Cys Arg Met Thr Gln Asn  
 245 250 255  
 Leu Leu Glu Ser Cys Gln Gly Phe Gly Trp Phe Asp Asn Thr Ser Tyr  
 260 265 270  
 Ile Val Gly Lys Lys Gly His Ala Glu Ser Leu Val Leu Val Gln Ser  
 275 280 285  
 Pro Arg Lys Thr Trp Val Asn Asn Leu Met Ser His Asp Ala Glu Glu  
 290 295 300  
 Thr Val Ser Arg Gln Asn Ile Lys Ser Ile Leu Tyr Ser Gly His Phe  
 305 310 315 320  
 Leu Phe Glu Gly Thr Ile Ser Ile Ser Ser Gln Gly Asp Leu Ser Asp  
 325 330 335  
 Ala Asn Gln Lys His Asp Thr Leu Leu Ser Ser Glu Ala Arg Val  
 340 345 350  
 Ser Thr Phe Pro Arg Leu Glu Ile Glu Thr Asp Glu Val Lys Ala Ser  
 355 360 365  
 His Gly Ala Thr Val Gly Pro Leu Asp Pro Gln Gln Ile Phe Tyr Met  
 370 375 380  
 Arg Ser Arg Gly Met Thr Glu Ala Glu Ala Gln Glu Lys Leu Ile His  
 385 390 395 400  
 Gly Phe Leu Lys Gln Gly Leu Val Ser Asp Thr Phe Leu Gly Ser Ser  
 405 410 415  
 Phe Gln Leu Asn Gln Thr Ser  
 420

<210> 693

<211> 261

<212> PRT

<213> Chlamydia pneumoniae

<400> 693

Arg Gly Leu Gly Ser Met Leu Lys Ile Lys His Leu His Ala Ser Cys  
 1 5 10 15  
 Asn Asp Val Lys Ile Leu Asp Asp Phe Asn Leu Asn Ile Gln Pro Gly  
 20 25 30  
 Thr Met His Val Ile Met Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu  
 35 40 45  
 Ala Lys Ile Leu Ala Gly Asp Glu Ser Val Leu Val Ser Ser Gly Glu  
 50 55 60

Ile Ala Leu Gln Glu Gln Asn Leu Leu Ser Met Leu Pro Glu Glu Arg  
 65 70 75 80  
 Ser Arg Ala Gly Leu Phe Val Gly Phe Gln Met Pro Pro Glu Ile Pro  
 85 90 95  
 Gly Val Asn Asn Lys Met Phe Leu Arg Asp Ala Tyr Asn Ala Arg Arg  
 100 105 110  
 Arg Ala Asn Gln Glu Gly Asp Ile Ser Ile Asp Glu Phe Asn Thr Leu  
 115 120 125  
 Leu Ser Thr Val Leu Glu Thr Tyr Glu Tyr Asn Ala Thr Thr Asp Leu  
 130 135 140  
 Phe Leu Asp Arg Asn Val Asn Glu Gly Phe Ser Gly Gly Glu Arg Lys  
 145 150 155 160  
 Arg Asn Glu Ile Cys Gln Met Leu Val Leu Glu Pro Glu Met Val Leu  
 165 170 175  
 Leu Asp Glu Pro Asp Ser Gly Leu Asp Val Asp Ala Leu Arg Leu Ile  
 180 185 190  
 Cys Arg Val Leu Glu Lys Tyr Arg Glu Leu His Pro Thr Ser Ser Leu  
 195 200 205  
 Cys Ile Val Thr His Asn Pro Lys Leu Gly Asn Leu Ile Arg Pro Asp  
 210 215 220  
 Val Val His Leu Leu Leu Asp Gly Arg Val Ala Leu Ser Gly Asp Val  
 225 230 235 240  
 Ser Leu Met His Glu Leu Glu Ala Lys Ser Tyr Gln Glu Val Thr Lys  
 245 250 255  
 Arg Val Ala Trp Arg  
 260

<210> 694

<211> 495

<212> PRT

<213> Chlamydia pneumoniae

<400> 694

Ile Gln Glu Phe Cys Ala Thr Gly Leu Lys Val Met Gly Glu Ser Val  
 1 5 10 15  
 Lys Val Phe Leu Glu Glu Arg Glu Asp Tyr Pro Tyr Gly Phe Val Thr  
 20 25 30  
 Pro Ile Glu Ser Gln Gly Leu Thr Arg Gly Leu Ser Glu Glu Thr Ile  
 35 40 45  
 Glu Glu Ile Ala Ala Leu Arg Asn Glu Pro Gln Phe Ile Ile Asp Phe  
 50 55 60  
 Arg Leu Gln Ala Tyr Arg Tyr Trp Lys Gln Leu His Glu Pro Ala Trp  
 65 70 75 80  
 Ala Arg Leu His Tyr Gly Pro Ile Ala Tyr Asp Asp Ile Val Tyr Phe  
 85 90 95  
 Ser Ser Pro Lys Gln Lys Lys Pro Leu Gly Arg Leu Glu Asp Ala Asp  
 100 105 110  
 Pro Glu Ile Leu Asp Thr Phe Lys Lys Leu Gly Ile Pro Leu Asp Glu  
 115 120 125  
 Gln Lys Arg Leu Leu Asn Val Glu Asn Val Ala Val Asp Leu Val Phe  
 130 135 140  
 Asp Ser Val Ser Ile Gly Thr Thr Phe Lys Glu Ala Leu Glu Lys Ala  
 145 150 155 160  
 Gly Val Ile Phe Cys Ser Leu Gly Glu Ala Ile Gln Glu His Pro Asn  
 165 170 175  
 Leu Val Lys Lys Tyr Leu Gly Ser Val Val Ser His Arg Asp Asn Phe  
 180 185 190  
 Phe Ala Ala Leu Asn Ala Ala Val Phe Ser Asp Gly Ser Phe Val Tyr  
 195 200 205  
 Val Pro Lys Gly Val Lys Cys Pro Met Asp Ile Ser Thr Tyr Phe Arg  
 210 215 220

Ile Asn Asn Lys Glu Ala Gly Gln Phe Glu Arg Thr Leu Ile Val Val  
 225 230 235 240  
 Glu Asp Gly Gly Tyr Ala Ser Tyr Leu Glu Gly Cys Thr Ala Pro Ala  
 245 250 255  
 Tyr Ser Ser Asn Gln Leu His Ala Ala Val Val Glu Leu Val Ala His  
 260 265 270  
 Glu His Ala Val Ile Arg Tyr Ser Thr Val Gln Asn Trp Tyr Ala Gly  
 275 280 285  
 Asp Lys Lys Thr Gly Lys Gly Gly Ile Tyr Asn Phe Val Thr Lys Arg  
 290 295 300  
 Gly Leu Cys Ala Gly Tyr Arg Ser Lys Ile Ser Trp Ser Gln Val Glu  
 305 310 315 320  
 Val Gly Ala Ala Ile Thr Trp Lys Tyr Pro Ser Cys Ile Leu Lys Gly  
 325 330 335  
 Asp Glu Ser Val Gly Glu Phe Tyr Ser Val Ala Leu Thr Ser Gly Lys  
 340 345 350  
 Met Gln Ala Asp Thr Gly Thr Lys Met Leu His Val Gly Lys Arg Thr  
 355 360 365  
 Thr Ser Thr Val Ile Ser Lys Gly Ile Ser Ser Asp Glu Ser Lys Asn  
 370 375 380  
 Thr Phe Arg Ser Leu Val Ser Leu Gly Lys Lys Ala Glu His Ser Ser  
 385 390 395 400  
 Asn Tyr Thr Gln Cys Asp Ser Met Leu Ile Gly Lys Ala Ser Gly Ala  
 405 410 415  
 Tyr Thr Asp Pro Lys Ile Val Val Glu Asn Ser Thr Ser Ser Ile Glu  
 420 425 430  
 His Glu Ala Thr Thr Ser Lys Leu Arg Glu Asp Gln Leu Leu Tyr Leu  
 435 440 445  
 Arg Ser Arg Gly Leu Ser Pro Glu Glu Ala Val Ser Leu Val Ile His  
 450 455 460  
 Gly Phe Cys Arg Glu Ile Ile Glu Gln Leu Pro Leu Glu Phe Ala Gln  
 465 470 475 480  
 Glu Ala Ser Lys Leu Leu Leu Ile Lys Leu Glu Asn Ser Val Gly  
 485 490 495

<210> 695

<211> 351

<212> PRT

<213> Chlamydia pneumoniae

<400> 695

Leu Arg Ser Thr Asn His Val Leu Gly Glu Ile Ser Met Glu Glu Ala  
 1 5 10 15  
 Ala Lys His Leu Ala Lys Glu Phe Leu Cys Ser Gly Ile Asn Leu Phe  
 20 25 30  
 Leu Ser Gly Glu Tyr Glu Gln Ala Glu Lys Arg Leu Lys Glu Thr Leu  
 35 40 45  
 Glu Leu Asp Ser Thr Ala Ala Leu Ala Tyr Cys Tyr Leu Gly Ile Ile  
 50 55 60  
 Ala Leu Glu Thr Gly Arg Val Ser Glu Ala Leu Asn Trp Cys Ser Lys  
 65 70 75 80  
 Gly Leu Ala Ser Glu Pro Gly Asp Ser Tyr Leu Arg Tyr Cys Tyr Gly  
 85 90 95  
 Val Ala Leu Asp Arg Gly Asn Gln Tyr Glu Ala Ala Ile Glu Gln Tyr  
 100 105 110  
 Ser Ala Tyr Val Ala Leu His Pro Asp Asp Val Glu Cys Trp Phe Ser  
 115 120 125  
 Leu Gly Ser Val Tyr His Arg Leu Lys Arg Leu Gln Glu Ala Leu Asp  
 130 135 140  
 Cys Phe Asp Lys Ile Leu Ala Leu Asp Pro Trp Asn Pro Gln Ser Leu  
 145 150 155 160

Tyr Asn Lys Ala Val Ile Leu Ser Glu Met Asp Asp Glu Ala Glu Ser  
 165 170 175  
 Ile Arg Leu Leu Glu Val Ala Val Ala Lys Asn Pro Leu Tyr Trp Lys  
 180 185 190  
 Ala Trp Val Lys Leu Gly Phe Leu Leu Ser Arg Ser Lys Arg Trp Asp  
 195 200 205  
 Lys Ala Thr Glu Ala Tyr Glu Arg Val Val Gln Leu Arg Pro Asp Leu  
 210 215 220  
 Ser Asp Gly His Tyr Asn Leu Gly Leu Cys Tyr Leu Thr Leu Asp Lys  
 225 230 235 240  
 Thr Arg Leu Ala Leu Lys Ala Phe Gln Glu Ala Leu Phe Leu Asn Ala  
 245 250 255  
 Glu Asp Ala Asp Ala His Phe Tyr Val Gly Leu Ala His Leu Asp Leu  
 260 265 270  
 Lys Gln Met Arg Glu Ala Tyr Glu Ala Phe Asn Ser Ala Leu Ser Ile  
 275 280 285  
 Asn Leu Glu His Glu Arg Ala His Tyr Leu Leu Gly Tyr Leu His His  
 290 295 300  
 Met Gln Gly Glu Thr Asp Lys Ala Thr Lys Glu Leu Leu Phe Leu Gln  
 305 310 315 320  
 Lys Lys Asp Ser Thr Phe Ala Pro Leu Leu Gln Lys Thr Val Val Ser  
 325 330 335  
 Asp Pro Ser Ser Met Gln Phe Glu Arg Arg Leu Asp Thr Ile Ser  
 340 345 350

<210> 696  
 <211> 1102  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 696  
 Phe Ser Asp Glu Ser Glu Ala His Asn Ile His Ser Met Lys Arg Pro  
 1 5 10 15  
 Lys Lys Phe Pro Ile Tyr Leu Ser Ile Ala Gln Lys Thr Asn Arg Leu  
 20 25 30  
 Leu Ser Gly Ile Val Ile Ala Phe Ala Val Ile Ala Leu Arg Leu Trp  
 35 40 45  
 Tyr Leu Ala Val Val Glu His Glu Gln Lys Leu Glu Glu Ala Tyr Lys  
 50 55 60  
 Pro Gln Ile Arg Val Leu Pro Gln Tyr Val Glu Arg Ala Thr Ile Cys  
 65 70 75 80  
 Asp Arg Phe Gly Lys Thr Leu Ala Val Asn Gln Leu Gln Tyr Asp Val  
 85 90 95  
 Ser Val Ala Tyr Gly Ala Ile Arg Asp Leu Pro Thr Arg Ala Trp Arg  
 100 105 110  
 Val Asp Glu His Gly His Lys Gln Leu Ile Pro Val Arg Lys His Tyr  
 115 120 125  
 Ile Met Cys Leu Ser Glu Leu Leu Ser Gln Glu Leu His Leu Asp Arg  
 130 135 140  
 Glu Ala Ile Glu Asp Ala Ile His Ala Lys Ala Ser Val Leu Gly Ser  
 145 150 155 160  
 Val Pro Tyr Leu Val Ala Ala Asn Val Ser Glu Arg Thr Tyr Leu Lys  
 165 170 175  
 Leu Lys Met Leu Ser Lys Asp Trp Pro Gly Leu His Val Glu Ala Val  
 180 185 190  
 Val Arg Arg His Tyr Pro Gln Glu Ser Val Ala Ser Asp Ile Leu Gly  
 195 200 205  
 Tyr Val Gly Pro Ile Ser Leu Gln Glu Tyr Lys Arg Val Thr Gln Glu  
 210 215 220  
 Leu Ser Gln Leu Arg Glu Cys Val Arg Ala Tyr Glu Glu Gly Glu Asp  
 225 230 235 240

Pro	Lys	Leu	Pro	Glu	Gly	Leu	Ala	Ser	Ile	Asp	Gln	Val	Arg	Ala	Leu		
				245					250					255			
Leu	Glu	Ser	Val	Glu	Ser	Asn	Ala	Tyr	Ser	Leu	Asn	Ala	Leu	Val	Gly		
			260					265					270				
Lys	Met	Gly	Val	Glu	Ala	Cys	Trp	Asp	Ser	Lys	Leu	Arg	Gly	Lys	Ile		
		275					280					285					
Gly	Lys	Lys	Pro	Ile	Leu	Val	Asp	Arg	Arg	Gly	Asn	Phe	Ile	Gln	Glu		
	290					295					300						
Met	Glu	Gly	Ala	Val	Pro	Glu	Ala	Pro	Gly	Thr	Lys	Leu	Gln	Leu	Thr		
305					310					315					320		
Leu	Ser	Ala	Glu	Leu	Gln	Ala	Tyr	Ala	Asp	Ala	Leu	Leu	Leu	Glu	Tyr		
			325						330					335			
Glu	Lys	Thr	Glu	Thr	Phe	Arg	Ser	Ala	Lys	Ser	Leu	Lys	Lys	Arg	Glu		
		340						345					350				
Lys	Leu	Pro	Pro	Leu	Phe	Pro	Trp	Ile	Lys	Gly	Gly	Ala	Ile	Ile	Ala		
		355					360					365					
Leu	Asp	Pro	Asn	Asn	Gly	Glu	Ile	Leu	Ala	Met	Ala	Ser	Ser	Pro	Arg		
	370					375					380						
Tyr	Arg	Asn	Asn	Asp	Phe	Val	Asn	Ala	Lys	Val	Ala	Glu	Asp	Ser	Lys		
385					390					395					400		
Ala	Val	Arg	Ser	Ser	Ile	Tyr	Arg	Trp	Leu	Glu	Asn	Lys	Glu	His	Ile		
			405						410					415			
Ala	Glu	Ile	Tyr	Asp	Arg	Lys	Val	Pro	Leu	Ile	Arg	Glu	Arg	Arg	Asn		
		420						425					430				
Pro	Leu	Thr	Gly	Leu	Cys	Tyr	Glu	Glu	Ile	Leu	Pro	Leu	Thr	Phe	Asp		
		435					440					445					
Cys	Phe	Leu	Asp	Phe	Leu	Phe	Pro	Glu	Asn	Ser	Val	Ile	Lys	Leu	Gln		
	450					455					460						
Leu	Lys	Arg	Asn	Ser	Phe	Val	Gly	Gln	Ala	Ile	Glu	Val	Gln	Asn	Leu		
465					470					475					480		
Val	Thr	Arg	Leu	Leu	Ser	Leu	Phe	Pro	Tyr	Glu	Glu	Gly	Thr	Cys	Pro		
			485						490					495			
Cys	Ser	Ala	Ile	Phe	Asp	Ala	Val	Phe	Pro	Asn	Glu	Glu	Gly	His	Ile		
		500						505					510				
Leu	Ile	Gln	Glu	Val	Ile	Ser	Leu	Gln	Glu	Gln	Lys	Trp	Ile	Met	Glu		
	515						520						525				
Cys	Leu	Asn	Gln	His	Lys	Ala	Asp	Ile	Glu	Glu	Leu	Lys	Glu	Ala	Leu		
	530					535					540						
Asp	Gln	Val	Phe	Asn	Glu	Leu	Pro	Ala	Asn	Tyr	Asp	Lys	Ile	Leu	Tyr		
545					550					555					560		
Thr	Asp	Ile	Leu	Arg	Leu	Ile	Val	Asp	Pro	Glu	Arg	Phe	Ser	Pro	Val		
			565						570					575			
Leu	Pro	Ser	Glu	Val	His	Arg	Leu	Ser	Leu	Ser	Glu	Phe	Thr	Glu	Leu		
		580						585						590			
Gln	Gly	Arg	Tyr	Val	Val	Leu	Arg	Ser	Ala	Phe	Ser	Thr	Ile	Leu	Glu		
		595					600					605					
Asp	Ala	Phe	Ile	Glu	Val	His	Phe	Lys	Ser	Trp	Arg	Lys	Ser	Glu	Phe		
	610					615					620						
Leu	Gln	Tyr	Leu	Ala	Ala	Lys	Arg	Gln	Glu	Glu	Ala	Leu	Arg	Lys	Gln		
625					630					635					640		
Arg	Tyr	Pro	Thr	Pro	Tyr	Val	Asp	Tyr	Leu	Glu	Glu	Glu	Lys	Thr	Arg		
			645						650					655			
Gln	Tyr	Lys	Met	Phe	Cys	Gln	Glu	His	Leu	Asp	Thr	Phe	Leu	Ala	Tyr		
		660							665				670				
Leu	Phe	Ser	Lys	Thr	Pro	Tyr	Lys	Glu	Gly	Leu	Glu	Pro	Tyr	Tyr	Asp		
		675					680					685					
Ile	Leu	Asp	Leu	Trp	Ile	Asn	Glu	Leu	Asp	Asn	Gly	Ala	His	Arg	Ala		
	690					695					700						
Leu	Ser	Trp	His	Glu	His	Tyr	Leu	Phe	Leu	Lys	Glu	Arg	Val	Ser	His		
705					710					715					720		



Leu Ser Glu His Leu Pro Ala Leu Phe Ser Thr Phe Arg Glu Phe Asn  
 725 730 735  
 Glu Leu Gln Arg Pro Leu Leu Gly Lys Tyr Pro Ile Ser Ile Val Arg  
 740 745 750  
 Asn Lys Arg Gln Thr Glu Gln Asp Leu Ala Ala Ser Phe Tyr Pro Val  
 755 760 765  
 Tyr Gly Tyr Gly Tyr Leu Arg Pro His Ala Tyr Gly Gln Ala Ala Thr  
 770 775 780  
 Leu Gly Ser Ile Phe Lys Leu Val Ser Ala Tyr Ser Val Leu Ser Gln  
 785 790 795 800  
 Arg Ile Leu Trp Gly His Asn Glu Glu Pro Ala Asn Pro Leu Val Ile  
 805 810 815  
 Ile Asp Lys Asn Ser Phe Gly Tyr Arg Ser Ser Lys Pro His Val Gly  
 820 825 830  
 Phe Phe Lys Asp Gly Thr Pro Ile Pro Thr Phe Phe Arg Gly Gly Ser  
 835 840 845  
 Leu Pro Gly Asn Asp Phe Met Gly Arg Gly Phe Ile Asp Leu Val Ser  
 850 855 860  
 Ala Leu Glu Met Ser Ser Asn Pro Tyr Phe Ser Leu Leu Val Gly Glu  
 865 870 875 880  
 Gly Leu Gly Asp Pro Glu Asp Leu Ala Asp Ala Ala Ser Leu Phe Gly  
 885 890 895  
 Phe Gly Glu Lys Thr Gly Leu Gly Leu Pro Gly Glu Tyr Ala Gly Arg  
 900 905 910  
 Val Pro His Asp Leu Ala Tyr Asn Arg Ser Gly Leu Tyr Ala Thr Ala  
 915 920 925  
 Ile Gly Gln His Thr Leu Val Val Thr Pro Leu Gln Thr Ala Val Met  
 930 935 940  
 Leu Ala Ser Leu Val Asn Gly Gly Val Val Tyr Val Pro Lys Leu Leu  
 945 950 955 960  
 Leu Gly Glu Trp Glu Gly Glu His Val Ser Tyr Leu Ser Ser Lys Lys  
 965 970 975  
 Lys Arg Thr Ile Phe Met Pro Asp Ala Val Val Glu Val Leu Lys Thr  
 980 985 990  
 Gly Met Arg Asn Val Ile Trp Gly Gln Tyr Gly Thr Ala Arg Ala Ile  
 995 1000 1005  
 Gln Ser Gln Phe Pro Pro Gln Leu Leu Ser Arg Ile Ile Gly Lys Thr  
 1010 1015 1020  
 Ser Thr Ala Glu Ser Ile Met Arg Val Gly Leu Asp Arg Glu Tyr Gly  
 1025 1030 1035 1040  
 Thr Met Lys Met Lys Asp Ile Trp Phe Ala Ala Val Gly Phe Ser Asp  
 1045 1050 1055  
 Gln Asp Leu Ser Leu Pro Thr Ile Val Val Ile Val Tyr Leu Arg Leu  
 1060 1065 1070  
 Gly Glu Phe Gly Arg Asp Ala Ala Pro Met Ala Val Lys Met Ile Asp  
 1075 1080 1085  
 Met Trp Glu Lys Ile Gln Gln Arg Glu Ser Phe Leu Arg Gly  
 1090 1095 1100

<210> 697

<211> 394

<212> PRT

<213> Chlamydia pneumoniae

<400> 697

Ser Leu Glu Val Ser Met Lys Lys Leu Leu Lys Ser Ala Leu Leu Ser  
 1 5 10 15  
 Ala Ala Phe Ala Gly Ser Val Gly Ser Leu Gln Ala Leu Pro Val Gly  
 20 25 30  
 Asn Pro Ser Asp Pro Ser Leu Leu Ile Asp Gly Thr Ile Trp Glu Gly  
 35 40 45

Ala Ala Gly Asp Pro Cys Asp Pro Cys Ala Thr Trp Cys Asp Ala Ile  
 50 55 60  
 Ser Leu Arg Ala Gly Phe Tyr Gly Asp Tyr Val Phe Asp Arg Ile Leu  
 65 70 75 80  
 Lys Val Asp Ala Pro Lys Thr Phe Ser Met Gly Ala Lys Pro Thr Gly  
 85 90 95  
 Ser Ala Ala Ala Asn Tyr Thr Thr Ala Val Asp Arg Pro Asn Pro Ala  
 100 105 110  
 Tyr Asn Lys His Leu His Asp Ala Glu Trp Phe Thr Asn Ala Gly Phe  
 115 120 125  
 Ile Ala Leu Asn Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly  
 130 135 140  
 Ala Ser Asn Gly Tyr Ile Arg Gly Asn Ser Thr Ala Phe Asn Leu Val  
 145 150 155 160  
 Gly Leu Phe Gly Val Lys Gly Thr Thr Val Asn Ala Asn Glu Leu Pro  
 165 170 175  
 Asn Val Ser Leu Ser Asn Gly Val Val Glu Leu Tyr Thr Asp Thr Ser  
 180 185 190  
 Phe Ser Trp Ser Val Gly Ala Arg Gly Ala Leu Trp Glu Cys Gly Cys  
 195 200 205  
 Ala Thr Leu Gly Ala Glu Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val  
 210 215 220  
 Glu Glu Leu Asn Val Ile Cys Asn Val Ser Gln Phe Ser Val Asn Lys  
 225 230 235 240  
 Pro Lys Gly Tyr Lys Gly Val Ala Phe Pro Leu Pro Thr Asp Ala Gly  
 245 250 255  
 Val Ala Thr Ala Thr Gly Thr Lys Ser Ala Thr Ile Asn Tyr His Glu  
 260 265 270  
 Trp Gln Val Gly Ala Ser Leu Ser Tyr Arg Leu Asn Ser Leu Val Pro  
 275 280 285  
 Tyr Ile Gly Val Gln Trp Ser Arg Ala Thr Phe Asp Ala Asp Asn Ile  
 290 295 300  
 Arg Ile Ala Gln Pro Lys Leu Pro Thr Ala Val Leu Asn Leu Thr Ala  
 305 310 315 320  
 Trp Asn Pro Ser Leu Leu Gly Asn Ala Thr Ala Leu Ser Thr Thr Asp  
 325 330 335  
 Ser Phe Ser Asp Phe Met Gln Ile Val Ser Cys Gln Ile Asn Lys Phe  
 340 345 350  
 Lys Ser Arg Lys Ala Cys Gly Val Thr Val Gly Ala Thr Leu Val Asp  
 355 360 365  
 Ala Asp Lys Trp Ser Leu Thr Ala Glu Ala Arg Leu Ile Asn Glu Arg  
 370 375 380  
 Ala Ala His Val Ser Gly Gln Phe Arg Phe  
 385 390

<210> 698

<211> 299

<212> PRT

<213> Chlamydia pneumoniae

<400> 698

Asn Ser Gly Phe Tyr Val Arg Met Pro Leu Leu Thr Tyr Ser Asn Phe  
 1 5 10 15  
 Glu Ile Glu Val Gln Ser Leu Glu Ser Gln Ser Cys Lys Leu Thr Ile  
 20 25 30  
 Lys Asp Leu Met Ser Ala Gly Ala His Phe Gly His Gln Thr Arg Arg  
 35 40 45  
 Trp Asn Pro Lys Met Lys Leu Tyr Ile Phe Glu Glu Lys Asn Gly Leu  
 50 55 60  
 Tyr Ile Ile Asn Leu Ala Lys Thr Leu Gln Gln Leu Arg Asn Ala Leu  
 65 70 75 80

Pro	His	Ile	Arg	Lys	Val	Ile	Gln	Asp	Asn	Lys	Thr	Val	Leu	Phe	Val		
				85					90					95			
Gly	Thr	Lys	Lys	Gln	Ala	Lys	Cys	Val	Ile	Arg	Glu	Ala	Ala	Ile	Glu		
			100					105					110				
Ala	Gly	Glu	Phe	Phe	Ile	Ala	Glu	Arg	Trp	Leu	Gly	Gly	Met	Leu	Thr		
			115				120					125					
Asn	Met	Thr	Thr	Ile	Arg	Asn	Ser	Ile	Lys	Thr	Leu	Asp	Lys	Ile	Glu		
			130				135				140						
Lys	Asp	Leu	Ser	Arg	Asn	Gln	Ala	Tyr	Leu	Thr	Lys	Lys	Glu	Ala	Ala		
145					150					155					160		
Leu	Leu	Ala	Lys	Arg	His	Gln	Lys	Leu	Leu	Arg	Asn	Leu	Glu	Gly	Ile		
				165					170					175			
Arg	Tyr	Met	Lys	Lys	Ala	Pro	Gly	Leu	Leu	Val	Val	Val	Asp	Pro	Ser		
			180					185					190				
Tyr	Glu	Lys	Ile	Ala	Val	Ala	Glu	Ala	Lys	Lys	Leu	Gly	Ile	Pro	Val		
			195				200					205					
Leu	Ala	Leu	Val	Asp	Thr	Asn	Cys	Asp	Pro	Thr	Pro	Ile	Asp	His	Val		
			210				215				220						
Ile	Pro	Cys	Asn	Asp	Asp	Ser	Leu	Lys	Ser	Ile	Arg	Leu	Ile	Ile	Asn		
225					230					235					240		
Val	Ile	Lys	Glu	Asn	Ile	Ile	Glu	Ala	Lys	His	Lys	Leu	Gly	Ile	Glu		
				245					250					255			
Ile	Val	Ser	Pro	Val	Lys	Ser	Leu	Glu	Val	Pro	Asp	Leu	Ser	Ala	Phe		
			260					265					270				
Glu	Ser	Ser	Gln	Asp	Asp	Glu	Ser	Asp	Glu	Glu	Asn	Arg	Glu	Glu	Asp		
			275				280					285					
Leu	Leu	Ala	Lys	Lys	Phe	Asp	Gly	Glu	Ala	Asn							
			290				295										

<210> 699

<211> 287

<212> PRT

<213> Chlamydia pneumoniae

<400> 699

Trp	Arg	Gly	Lys	Leu	Met	Ser	Asp	Phe	Ser	Met	Glu	Thr	Leu	Lys	Thr		
1				5					10					15			
Leu	Arg	Gln	Gln	Thr	Gly	Val	Gly	Leu	Thr	Lys	Cys	Lys	Glu	Ala	Leu		
			20					25					30				
Glu	Ala	Cys	Gly	Gly	Asn	Leu	Glu	Glu	Ala	Val	Val	Tyr	Leu	Arg	Lys		
			35				40					45					
Leu	Gly	Leu	Ala	Ser	Ala	Gly	Lys	Lys	Glu	His	Arg	Glu	Thr	Lys	Glu		
			50				55				60						
Gly	Ile	Ile	Ala	Ala	Lys	Thr	Asp	Ala	Asn	Gly	Thr	Ala	Leu	Ile	Glu		
65					70					75					80		
Val	Asn	Val	Glu	Thr	Asp	Phe	Val	Ala	Asn	Asn	Ala	Val	Phe	Arg	Glu		
				85					90					95			
Phe	Val	Ser	Asn	Leu	Leu	Asn	Asp	Ile	Leu	Lys	Tyr	Lys	Val	Asp	Thr		
			100					105					110				
Val	Glu	Ala	Leu	Ser	Gln	Ala	Ala	Ser	Ser	Gln	Asp	Pro	Ser	Leu	Ser		
			115				120					125					
Val	Asp	Glu	Leu	Arg	Ala	Val	Thr	Met	Gln	Thr	Val	Gly	Glu	Asn	Ile		
			130				135				140						
Arg	Ile	Ser	Arg	Val	Ala	Tyr	Phe	Pro	Lys	Ala	Thr	Asn	Ser	Thr	Val		
145					150					155					160		
Gly	Ile	Tyr	Ser	His	Gly	Asn	Gly	Lys	Thr	Val	Ala	Leu	Thr	Met	Leu		
				165					170					175			
Ser	Gly	Ser	Ser	Thr	Ala	Asp	Ser	Leu	Ala	Lys	Asp	Ile	Ala	Met	His		
			180					185					190				
Val	Val	Ala	Ala	Gln	Pro	Gln	Phe	Leu	Ser	Lys	Glu	Ser	Val	Pro	Ala		
			195				200						205				

Glu Ala Ile Ala Lys Glu Lys Glu Val Ile Ala Ser Gln Ile Gln Gly  
 210 215 220  
 Lys Pro Gln Glu Val Ile Glu Lys Ile Val Thr Gly Lys Leu Asn Thr  
 225 230 235 240  
 Phe Phe Gln Glu Ala Cys Leu Leu Glu Gln Pro Phe Ile Lys Asn Ala  
 245 250 255  
 Asp Leu Ser Ile Gln Ser Leu Ile Asp Asp Phe Ser Lys Thr Ser Gly  
 260 265 270  
 Ser Ser Val Ala Ile Glu Gln Phe Ile Leu Trp Lys Ile Gly Ala  
 275 280 285

<210> 700  
 <211> 253  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 700  
 Glu Pro Asn Lys Asn Met Ala Lys Gln Thr Arg Arg Val Leu Phe Lys  
 1 5 10 15  
 Ile Ser Gly Glu Ala Leu Ser Lys Asp Ser Ser Asn Arg Ile Asp Glu  
 20 25 30  
 Met Arg Leu Ser Arg Leu Val Ser Glu Leu Arg Ala Val Arg Asn Asn  
 35 40 45  
 Asp Ile Glu Ile Ala Leu Val Ile Gly Gly Gly Asn Ile Leu Arg Gly  
 50 55 60  
 Leu Ala Glu Gln Lys Glu Leu Gln Ile Asn Arg Val Ser Ala Asp Gln  
 65 70 75 80  
 Met Gly Met Leu Ala Thr Leu Ile Asn Gly Met Ala Val Ala Asp Ala  
 85 90 95  
 Leu Lys Ala Glu Asp Ile Pro Cys Leu Leu Thr Ser Thr Leu Ser Cys  
 100 105 110  
 Pro Gln Leu Ala Asp Leu Tyr Thr Pro Gln Lys Ser Ile Glu Ala Leu  
 115 120 125  
 Asp Gln Gly Lys Ile Leu Ile Cys Thr Thr Gly Ala Gly Ser Pro Tyr  
 130 135 140  
 Leu Thr Thr Asp Thr Gly Ala Ala Leu Arg Ala Cys Glu Leu Asn Val  
 145 150 155 160  
 Asp Val Leu Ile Lys Ala Thr Met His Val Asp Gly Val Tyr Asp Lys  
 165 170 175  
 Asp Pro Arg Leu Phe Pro Asp Ala Val Lys Tyr Asp Phe Val Ser Tyr  
 180 185 190  
 Lys Asp Phe Leu Ser Asn Gln Leu Gly Val Met Asp Ala Ser Ala Ile  
 195 200 205  
 Ser Leu Cys Met Asp Ser His Ile Pro Ile Arg Val Phe Ser Phe Leu  
 210 215 220  
 Gln His Ser Leu Glu Lys Ala Leu Phe Asp Pro Thr Ile Gly Thr Leu  
 225 230 235 240  
 Val Ser Glu Asp Val Asn His Val Cys Ser Pro Arg His  
 245 250

<210> 701  
 <211> 181  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 701  
 Thr Met Ser Val Leu Gln Asp Thr Glu Lys Lys Met Ala Ala Ala Leu  
 1 5 10 15  
 Asp Phe Phe His Lys Glu Val Lys Ser Phe Arg Thr Gly Lys Ala His  
 20 25 30

Pro Ala Leu Val Glu Thr Val Val Val Asp Val Tyr Gly Thr Thr Met  
           35                          40                          45  
 Arg Leu Ser Asp Ile Ala Ser Ile Ser Val Ala Asp Leu Arg Gln Leu  
           50                          55                          60  
 Val Ile Ser Pro Tyr Asp Gly Asn Asn Ala Ser Ala Ile Ala Lys Gly  
 65                          70                          75                          80  
 Ile Ile Ala Ala Asn Leu Asn Leu Gln Pro Glu Val Glu Gly Ser Ile  
                           85                          90                          95  
 Ile Arg Ile Lys Val Pro Glu Pro Thr Ala Asp Tyr Arg Gln Glu Met  
                           100                          105                          110  
 Ile Lys Gln Leu Arg Arg Lys Cys Glu Glu Ala Lys Ile Asn Val Arg  
                           115                          120                          125  
 Asn Ile Arg Arg Glu Ala Asn Asp Lys Leu Lys Lys Asp Ser Ala Leu  
                           130                          135                          140  
 Thr Glu Asp Val Val Lys Gly Asn Glu Lys Lys Ile Gln Glu Leu Thr  
 145                          150                          155                          160  
 Asp Lys Phe Cys Lys Gln Leu Asp Glu Leu Thr Lys Gln Lys Glu Ala  
                           165                          170                          175  
 Glu Ile Ala Ser Ile  
                           180

<210> 702  
 <211> 172  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 702  
 Leu Met Val His Ser Pro Thr His Gln Cys Tyr His Cys Gln Gln Pro  
   1                          5                          10                          15  
 Ala Thr Ile Cys Tyr Thr Glu Ile Asp Lys Asp Lys Val Ile Arg Ser  
                           20                          25                          30  
 Tyr Val Cys Ala Thr Cys Pro Cys Pro Ser His Tyr Tyr Asn Asn Glu  
                           35                          40                          45  
 His Leu Ser Leu Ser Lys Gly Val Gly Val Leu Thr Leu Glu Cys Gly  
                           50                          55                          60  
 Asn Cys Lys Thr Val Trp His Ser Lys Gln Asp Asp Glu Gln Leu Leu  
 65                          70                          75                          80  
 Gly Cys His Gln Cys Tyr Thr Asn Phe Lys Asn Gln Ile Thr Ser Lys  
                           85                          90                          95  
 Leu Lys Ser Glu Arg Val Val Ser Ser Ser Phe Thr Met Glu Lys Gly  
                           100                          105                          110  
 Gln Gly Ser Leu His Ile Gly Arg Ala Pro Gly Glu Ala Ser Asn Thr  
                           115                          120                          125  
 Asn Pro Leu Leu Lys Leu Ile Ala Leu Asn Glu Ala Leu Gln Asp Thr  
                           130                          135                          140  
 Leu Glu Arg Glu Asp Tyr Glu Gln Ala Ala Val Ile Arg Asp Gln Ile  
 145                          150                          155                          160  
 Asn His Leu Lys Thr Lys Asn Pro Asp Asp Pro Ser  
                           165                          170

<210> 703  
 <211> 363  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 703  
 Lys Pro Lys Ile Gln Met Thr Leu Pro Asn Asp Leu Leu Glu Thr Leu  
   1                          5                          10                          15  
 Val Lys Arg Lys Glu Ser Pro Gln Ala Asn Lys Val Trp Pro Val Thr  
                           20                          25                          30

Thr Phe Ser Leu Ala Arg Asn Leu Ser Val Ser Lys Phe Leu Pro Cys  
 35 40 45  
 Leu Ser Lys Glu Gln Lys Leu Glu Ile Leu Gln Phe Ile Thr Ser His  
 50 55 60  
 Phe Asn His Ile Glu Gly Phe Gly Glu Phe Ile Val Leu Pro Leu Lys  
 65 70 75 80  
 Asp Thr Pro Leu Trp Gln Lys Glu Phe Leu Glu His Phe Leu Leu  
 85 90 95  
 Pro Tyr Asp Leu Val Gly Asn Pro Glu Gly Glu Ala Leu Val Val Ser  
 100 105 110  
 Arg Ser Gly Asp Phe Leu Ala Ala Ile Asn Phe Gln Asp His Leu Val  
 115 120 125  
 Leu His Gly Ile Asp Phe Gln Gly Asn Val Glu Lys Thr Leu Asp Gln  
 130 135 140  
 Leu Val Gln Leu Asp Ser Tyr Leu His Ser Lys Leu Ser Phe Ala Phe  
 145 150 155 160  
 Ser Ser Glu Phe Gly Phe Leu Thr Thr Asn Pro Lys Asn Cys Gly Thr  
 165 170 175  
 Gly Leu Lys Ser Gln Cys Phe Leu His Ile Pro Ala Leu Leu Tyr Ser  
 180 185 190  
 Lys Glu Phe Thr Asn Leu Ile Asp Glu Glu Val Glu Ile Ile Thr Ser  
 195 200 205  
 Ser Leu Leu Leu Gly Val Thr Gly Phe Pro Gly Asn Ile Val Val Leu  
 210 215 220  
 Ser Asn Arg Cys Ser Leu Gly Leu Thr Glu Glu Leu Leu Leu Ser Ser  
 225 230 235 240  
 Leu Arg Ile Thr Ala Ser Lys Leu Ser Val Ala Glu Val Ala Ala Lys  
 245 250 255  
 Lys Arg Leu Ser Glu Glu Asn Ser Gly Asp Leu Lys Asn Leu Ile Leu  
 260 265 270  
 Arg Ser Leu Gly Leu Leu Thr His Ser Cys Gln Leu Glu Leu Lys Glu  
 275 280 285  
 Thr Leu Asp Ala Leu Ser Trp Ile Gln Leu Gly Ile Asp Leu Gly Leu  
 290 295 300  
 Ile Lys Val Thr Glu Asn His Pro Leu Trp Asn Pro Leu Phe Trp Gln  
 305 310 315 320  
 Ile Arg Arg Ala His Leu Ala Leu Gln Lys Gln Ala Glu Asp Ser Arg  
 325 330 335  
 Asp Leu Gln Lys Asp Thr Ile Ser His Leu Arg Ala Ser Val Leu Lys  
 340 345 350  
 Glu Leu Thr Lys Gly Leu Ser Pro Glu Ser Phe  
 355 360

<210> 704

<211> 924

<212> PRT

<213> Chlamydia pneumoniae

<400> 704

Leu Lys Lys Asn Pro Val Lys Thr Val Ile Leu Asn Ile Gly Arg Lys  
 1 5 10 15  
 Ile Leu Gln Gly Ile Lys Lys Lys Lys Lys Lys Ile Gly Ile Leu Ser  
 20 25 30  
 Gly Leu Phe Phe Leu Asp Leu Val Leu Leu Gly Val Ser Ser Gln Arg  
 35 40 45  
 Pro Thr Glu Thr Ser Ala Asn Val Lys His Asn Leu Arg Asp Glu Lys  
 50 55 60  
 Leu Ala Ala Cys Pro Lys Asn Ser Ala Ala Ser Leu Ser Ala Lys Lys  
 65 70 75 80  
 Ser His Thr Lys Lys Thr Thr Pro Gly Ser Ile Pro Ser Lys Val Phe  
 85 90 95

Ser	Lys	Phe	Asp	Ala	Thr	Gln	Asp	Lys	Thr	Phe	Gln	Lys	Thr	Ser	Gly	100	105	110
Ser	Ala	Phe	Pro	Ala	Lys	Pro	Thr	Thr	Leu	Lys	Glu	Leu	Glu	Glu	Arg	115	120	125
Lys	Lys	Pro	Arg	Pro	Glu	Arg	Arg	Thr	Thr	Ala	Asp	Val	Lys	Arg	Ser	130	135	140
Pro	Arg	Phe	Leu	Pro	Thr	Gln	Glu	Val	Glu	Glu	Pro	Val	Pro	Ala	Ala	145	150	155
Ser	Lys	Glu	Gln	Leu	Asp	Ser	Ile	Gln	Val	Trp	Glu	Glu	Lys	Gln	Asn	165	170	175
Tyr	Ala	Arg	Arg	Ala	Val	Asn	Ala	Ile	Asn	Leu	Ser	Ile	Lys	Lys	Gln	180	185	190
Leu	Glu	Glu	Gln	Thr	Ser	Thr	Val	Thr	Glu	Lys	Asp	Val	Gln	Pro	Lys	195	200	205
Thr	Gln	Ala	Thr	Pro	His	Ala	Ser	Lys	Lys	Asn	Val	Ala	Ser	Pro	Ser	210	215	220
Thr	Ser	Met	Pro	Gly	Ile	Glu	Lys	Ala	Ala	Thr	Thr	Val	Ala	Val	Pro	225	230	235
Gln	Asp	Lys	Ser	Glu	Glu	Glu	Lys	Val	Lys	Glu	Arg	Leu	Thr	Lys	Arg	245	250	255
Glu	Leu	Thr	Cys	Glu	Asp	Leu	Lys	Asp	Asn	Gly	Tyr	Thr	Val	Asn	Phe	260	265	270
Glu	Asp	Ile	Ser	Ile	Leu	Glu	Leu	Gln	Phe	Val	Ser	Lys	Ile	Ser		275	280	285
Gly	Thr	Asn	Phe	Val	Phe	Asp	Ser	Asn	Asp	Leu	Gln	Phe	Asn	Val	Thr	290	295	300
Ile	Val	Ser	His	Asp	Pro	Thr	Ser	Val	Asp	Asp	Leu	Ser	Thr	Ile	Leu	305	310	315
Leu	Gln	Val	Leu	Lys	Met	His	Asp	Leu	Lys	Val	Val	Glu	Gln	Gly	Asn	325	330	335
Asn	Val	Leu	Ile	Tyr	Arg	Asn	Pro	His	Leu	Ser	Lys	Leu	Ser	Thr	Val	340	345	350
Val	Thr	Asp	Ser	Ser	Leu	Lys	Glu	Thr	Cys	Glu	Ala	Val	Val	Val	Thr	355	360	365
Arg	Val	Phe	Arg	Leu	Tyr	Ser	Val	Ser	Pro	Ser	Ala	Ala	Val	Asn	Ile	370	375	380
Ile	Gln	Pro	Leu	Leu	Ser	His	Asp	Ala	Ile	Val	Ser	Ala	Ser	Glu	Ala	385	390	395
Thr	Arg	His	Val	Ile	Ile	Ser	Asp	Ile	Ala	Gly	Asn	Val	Asp	Lys	Val	405	410	415
Ser	Asp	Leu	Leu	Ala	Ala	Leu	Asp	Cys	Pro	Gly	Thr	Ser	Val	Asp	Met	420	425	430
Thr	Glu	Tyr	Glu	Val	Lys	Tyr	Ala	Asn	Pro	Ala	Ala	Leu	Val	Ser	Tyr	435	440	445
Cys	Gln	Asp	Val	Leu	Gly	Thr	Leu	Ala	Glu	Asp	Asp	Ala	Phe	Gln	Met	450	455	460
Phe	Ile	Gln	Pro	Gly	Thr	Asn	Lys	Ile	Phe	Val	Val	Ser	Ser	Pro	Arg	465	470	475
Leu	Ala	Asn	Lys	Ala	Glu	Gln	Leu	Leu	Lys	Ser	Leu	Asp	Val	Pro	Glu	485	490	495
Met	Ala	His	Thr	Leu	Asp	Asp	Pro	Ala	Ser	Thr	Ala	Leu	Ala	Leu	Gly	500	505	510
Gly	Thr	Gly	Thr	Thr	Ser	Pro	Lys	Ser	Leu	Arg	Phe	Phe	Met	Tyr	Lys	515	520	525
Leu	Lys	Tyr	Gln	Asn	Gly	Glu	Val	Ile	Ala	Asn	Ala	Leu	Gln	Asp	Ile	530	535	540
Gly	Tyr	Asn	Leu	Tyr	Val	Thr	Thr	Ala	Met	Asp	Glu	Asp	Phe	Ile	Asn	545	550	555
Thr	Leu	Asn	Ser	Ile	Gln	Trp	Leu	Glu	Val	Asn	Asn	Ser	Ile	Val	Ile	565	570	575

Ile	Gly	Asn	Gln	Gly	Asn	Val	Asp	Arg	Val	Ile	Gly	Leu	Leu	Asn	Gly		
		580						585					590				
Leu	Asp	Leu	Pro	Pro	Lys	Gln	Val	Tyr	Ile	Glu	Val	Leu	Ile	Leu	Asp		
		595					600					605					
Thr	Ser	Leu	Glu	Lys	Ser	Trp	Asp	Phe	Gly	Val	Gln	Trp	Val	Ala	Leu		
		610				615					620						
Gly	Asp	Glu	Gln	Ser	Lys	Val	Ala	Tyr	Ala	Ser	Gly	Leu	Leu	Asn	Asn		
625					630					635					640		
Thr	Gly	Ile	Ala	Thr	Pro	Thr	Lys	Ala	Thr	Val	Pro	Pro	Gly	Thr	Pro		
			645						650					655			
Asn	Pro	Gly	Ser	Ile	Pro	Leu	Pro	Thr	Pro	Gly	Gln	Leu	Thr	Gly	Phe		
		660						665					670				
Ser	Asp	Met	Leu	Asn	Ser	Ser	Ser	Ala	Phe	Gly	Leu	Gly	Ile	Ile	Gly		
		675					680					685					
Asn	Val	Leu	Ser	His	Lys	Gly	Lys	Ser	Phe	Leu	Thr	Leu	Gly	Gly	Leu		
		690				695					700						
Leu	Ser	Ala	Leu	Asp	Gln	Asp	Gly	Asp	Thr	Val	Ile	Val	Leu	Asn	Pro		
705					710				715						720		
Arg	Ile	Met	Ala	Gln	Asp	Thr	Gln	Gln	Ala	Ser	Phe	Phe	Val	Gly	Gln		
			725						730					735			
Thr	Val	Pro	Tyr	Gln	Thr	Thr	Asn	Thr	Ile	Ile	Gln	Glu	Thr	Gly	Thr		
		740						745					750				
Val	Thr	Gln	Asn	Ile	Asp	Tyr	Glu	Asp	Ile	Gly	Val	Asn	Leu	Val	Val		
		755					760					765					
Thr	Ser	Thr	Val	Ala	Pro	Asn	Asn	Val	Val	Thr	Leu	Gln	Ile	Glu	Gln		
		770				775					780						
Thr	Ile	Ser	Glu	Leu	His	Ser	Ala	Ser	Gly	Ser	Leu	Thr	Pro	Val	Thr		
785					790				795						800		
Asp	Lys	Thr	Tyr	Ala	Ala	Thr	Arg	Leu	Gln	Ile	Pro	Asp	Gly	Cys	Phe		
			805						810					815			
Leu	Val	Met	Ser	Gly	His	Ile	Arg	Asp	Lys	Thr	Thr	Lys	Val	Val	Ser		
		820						825					830				
Gly	Val	Pro	Leu	Leu	Asn	Ser	Ile	Pro	Leu	Ile	Arg	Gly	Leu	Phe	Ser		
		835					840					845					
Arg	Thr	Ile	Asp	Gln	Arg	Gln	Lys	Arg	Asn	Ile	Met	Met	Phe	Ile	Lys		
		850				855				860							
Pro	Lys	Val	Ile	Ser	Ser	Phe	Glu	Glu	Gly	Thr	Arg	Val	Thr	Asn	Lys		
865					870					875					880		
Glu	Gly	Tyr	Arg	Tyr	Asn	Trp	Glu	Ala	Asp	Glu	Gly	Ser	Met	Gln	Val		
			885						890					895			
Ala	Pro	Arg	His	Ala	Pro	Glu	Cys	Gln	Gly	Pro	Pro	Ser	Leu	Gln	Ala		
		900						905					910				
Glu	Ser	Asp	Phe	Lys	Ile	Ile	Glu	Ile	Glu	Ala	Gln						
		915					920										

<210> 705

<211> 507

<212> PRT

<213> Chlamydia pneumoniae

<400> 705

Arg	Lys	Ile	Gly	Phe	Met	Asp	Cys	Arg	Gly	Gly	Ile	Pro	Leu	Pro	Glu		
1			5						10				15				
Pro	Gln	Val	Ile	Gly	Gly	Tyr	His	Val	Lys	Lys	Ile	Leu	Ser	Lys	Lys		
		20						25				30					
Leu	Arg	Ser	Arg	Val	Val	His	Gly	Leu	His	Pro	Glu	Thr	Arg	His	Ser		
		35					40					45					
Thr	Val	Ile	Lys	Val	Phe	Ser	Pro	Ser	Pro	Ser	Phe	Thr	Ser	Arg	Ser		
		50				55					60						
Val	Tyr	Asn	Phe	Leu	Lys	Glu	Ala	Gln	Ser	Leu	His	Gln	Ile	Thr	His		
65					70					75					80		



Pro	Asn	Ile	Val	Lys	Phe	His	Arg	Tyr	Gly	Lys	Trp	Gln	Asp	Cys	Leu		
				85					90					95			
Tyr	Ile	Ala	Met	Glu	Tyr	Ile	Glu	Gly	Ile	Ser	Leu	Arg	Glu	Tyr	Ile		
			100					105					110				
Leu	Ala	Gln	Phe	Ile	Ser	Leu	Pro	Gln	Ala	Ile	Asp	Ile	Ile	Phe	Asp		
			115				120					125					
Ile	Ala	Gln	Ala	Leu	Glu	His	Leu	His	Ser	Arg	Asn	Ile	Leu	His	Lys		
			130			135					140						
Asp	Ile	Lys	Pro	Glu	Asn	Ile	Leu	Ile	Thr	Pro	Gln	Gly	Lys	Ile	Lys		
145					150					155				160			
Leu	Ile	Asp	Phe	Gly	Leu	Ala	Asp	Trp	Asp	Thr	Glu	Ile	Gln	Arg	Ala		
			165					170						175			
His	Pro	Ser	Val	Ile	Gly	Thr	Pro	Tyr	Met	Ser	Pro	Glu	Gln	Arg			
			180				185						190				
Gln	Gly	Glu	Ser	His	Ser	Pro	Ala	Ser	Asp	Ile	Tyr	Ala	Leu	Gly	Leu		
		195				200						205					
Leu	Ala	Tyr	Glu	Leu	Ile	Leu	Gly	His	Leu	Ser	Leu	Gly	Arg	Val	Phe		
		210				215					220						
Leu	Ser	Leu	Val	Pro	Glu	Arg	Ile	Ser	Lys	Ile	Leu	Ala	Lys	Ala	Leu		
225				230					235					240			
Gln	Pro	Ser	Pro	Asn	Arg	Tyr	Ser	Ser	Thr	Arg	Glu	Phe	Ile	Gln			
			245					250					255				
Asp	Ile	His	His	Tyr	Arg	Met	Ser	Gly	Asp	Met	Gln	Glu	Asp	Leu	Arg		
			260					265					270				
Ile	Lys	Asp	His	Thr	Val	Ala	Leu	Tyr	Glu	Gln	Leu	Gln	Thr	Gln	Arg		
		275				280						285					
Phe	Trp	Leu	Ala	Pro	Glu	Thr	Leu	Arg	Phe	Pro	Asp	Phe	Ile	Ser	Gly		
		290				295					300						
Val	Leu	Tyr	His	Gln	Gly	Tyr	Pro	Leu	Tyr	Pro	His	Ala	Tyr	Asp	Thr		
305				310					315					320			
Leu	Leu	Glu	Gly	Asp	Val	Phe	Asn	Leu	Trp	Leu	Gly	Tyr	Ser	Pro	Ile		
			325					330					335				
Ser	Asn	Ala	Thr	Ile	Ala	Leu	Ser	Val	Val	Lys	Ser	Leu	Val	Cys	Gln		
			340					345					350				
Gln	Asp	Leu	Gln	Arg	Pro	Leu	Leu	Asp	Arg	Val	Cys	Glu	Ile	Asn	Glu		
		355				360					365						
Cys	Leu	Ile	Arg	Met	Lys	Ile	Pro	Ile	Asp	Glu	Met	Gly	Ile	Ser	Ile		
		370				375					380						
Leu	Cys	Leu	Glu	Ile	Ser	Lys	Glu	Asn	Lys	Glu	Leu	Ser	Trp	Ile	Ala		
385				390						395				400			
Cys	Gly	Lys	Thr	Val	Phe	Trp	Ile	Lys	Arg	Gln	Gly	Arg	Val	Val	Gln		
			405					410					415				
Asp	Phe	Glu	Ser	Phe	Ser	Pro	Gly	Leu	Gly	Lys	Ile	Thr	Ser	Leu	Gln		
			420					425					430				
Ile	Arg	Glu	Thr	Lys	Val	Ala	Trp	Glu	Ile	Gly	Asp	Glu	Ala	Val	Val		
		435				440					445						
Cys	Thr	Leu	Glu	Leu	Glu	Glu	Ser	Val	Ala	Ser	Leu	Lys	Thr	Leu	Ser		
		450				455					460						
Leu	Ala	Glu	Leu	Gln	Asp	Arg	Arg	Gln	Lys	Ala	Ile	Phe	Cys	Pro	Ile		
465				470					475					480			
Glu	Ser	Ile	His	Gly	Gly	Ile	Gln	Ser	Arg	Gln	His	Gly	Ser	Asn	Ser		
			485					490						495			
Pro	Ser	Thr	Leu	Ile	Ser	Leu	Lys	Arg	Ile	Arg							
			500					505									

<210> 706  
 <211> 374  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 706

Arg Tyr Phe Met Ala Val Ala Ala Asp Ser Ser Ala Ser Trp Leu Lys  
1 5 10 15  
Ser Arg Asn Asn Phe Leu Ser Ser Leu Gly Lys Thr Glu Glu Gln Val  
20 25 30  
Ala Ala Pro Glu Phe Pro Lys Glu Leu Cys Gln His Lys Ile Arg Glu  
35 40 45  
Lys Phe Arg Leu Glu Asp Val Gln Val Ser Ile Lys Phe Arg Gly Ser  
50 55 60  
Ile Thr Ala Val Glu Ala Thr Lys Glu Phe Gly Val His Leu Leu Ile  
65 70 75 80  
Gln Pro Met Val Val Gln Pro Trp Glu Val Glu Asn Leu Leu Phe Leu  
85 90 95  
Thr Ser Glu Glu Asp Leu Gln Glu Leu Met Val Ala Val Phe Asp Asp  
100 105 110  
Ala Ser Leu Ala Ser Tyr Phe Tyr Glu Lys Asp Lys Leu Leu Gly Phe  
115 120 125

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His Tyr Tyr Phe Val Ala Glu Ala Cys Lys Leu Phe Glu Glu Leu Gln  
130 135 140  
Trp Val Pro Ser Leu Ser Ala Lys Val Gly Gly Asp Ala Ile Phe Thr  
145 150 155 160  
Ala Thr Ser Leu Gln Gly Ser Phe Gln Val Val Asp Ile Ser Leu Arg  
165 170 175  
Leu Asp Gly Lys Asn Val Arg Cys Arg Leu Leu Leu Pro Glu Asp Thr  
180 185 190  
Phe Gln Ser Cys Gln Lys Phe Phe Ser Gly Leu His Asp Glu Ser Asp  
195 200 205  
Leu His Asn Ile Asp Gln Thr Gln Gln Ile Ser Leu Ser Val Glu Val  
210 215 220  
Gly Tyr Ser Gln Leu Thr Gln Glu Glu Trp His Gln Val Val Pro Gly  
225 230 235 240  
Ser Phe Ile Met Leu Asp Ser Cys Leu Tyr Asp Pro Glu Thr Glu Glu  
245 250 255  
Ser Gly Ala Leu Leu Thr Val Gln Lys His Gln Phe Phe Gly Gly Arg  
260 265 270  
Phe Leu Thr Pro Ser Ser Gly Glu Phe Lys Ile Thr Ser Tyr Pro Asn  
275 280 285  
Leu Thr His Glu Asp Pro Pro Leu Pro Glu Asn Pro Gln Ala Ser Ala  
290 295 300  
Ala Pro Leu Pro Gly Tyr Ser Arg Leu Val Val Glu Val Ala Arg Tyr  
305 310 315 320  
Ser Leu Ala Val Ser Glu Phe Ile Lys Leu Asn Leu Gly Ser Ile Leu  
325 330 335  
Ser Leu Gly Asn His Pro Ala Tyr Gly Val Asp Ile Ile Leu Asp Gly  
340 345 350  
Ala Lys Val Gly Arg Gly Glu Ile Ile Ala Leu Gly Asp Val Leu Gly  
355 360 365  
Ile Arg Val Leu Glu Val  
370

<210> 707

<211> 281

<212> PRT

<213> Chlamydia pneumoniae

<400> 707

Phe Met Glu Leu Lys Lys Thr Ala Glu Ser Leu Tyr Ser Ala Lys Thr  
1 5 10 15  
Asp Asn His Thr Val Tyr Gln Asn Ser Pro Glu Pro Arg Asp Ser Arg  
20 25 30

Asp Val Lys Val Phe Ser Leu Glu Gly Lys Gln Thr Arg Gln Glu Lys  
 35 40 45  
 Thr Thr Ser Ser Lys Gly Asn Thr Arg Thr Glu Ser Arg Lys Phe Ala  
 50 55 60  
 Asp Glu Glu Lys Arg Val Asp Asp Glu Ile Ala Glu Val Gly Ser Lys  
 65 70 75 80  
 Glu Glu Glu Gln Glu Ser Gln Glu Phe Cys Leu Ala Glu Asn Ala Phe  
 85 90 95  
 Ala Gly Met Ser Leu Ile Asp Ile Ala Ala Gly Ser Ala Glu Ala  
 100 105 110  
 Val Val Glu Val Ala Pro Ile Ala Val Ser Ser Ile Asp Thr Gln Trp  
 115 120 125  
 Ile Glu Asn Ile Ile Leu Ser Thr Val Glu Ser Met Val Ile Ser Glu  
 130 135 140  
 Ile Asn Gly Glu Gln Leu Val Glu Leu Val Leu Asp Ala Ser Ser Ser  
 145 150 155 160  
 Val Pro Glu Ala Phe Val Gly Ala Asn Leu Thr Leu Val Gln Ser Gly  
 165 170 175  
 Gln Asp Leu Ser Val Lys Phe Ser Ser Phe Val Asp Ala Thr Gln Met  
 180 185 190  
 Ala Glu Ala Ala Asp Leu Val Thr Asn Asn Pro Ser Gln Leu Ser Ser  
 195 200 205  
 Leu Val Ser Ala Leu Lys Gly His Gln Leu Thr Leu Lys Glu Phe Ser  
 210 215 220  
 Val Gly Asn Leu Leu Val Gln Leu Pro Lys Ile Glu Glu Val Gln Thr  
 225 230 235 240  
 Pro Leu His Met Ile Ala Ser Thr Ile Arg His Arg Glu Glu Lys Asp  
 245 250 255  
 Gln Arg Asp Gln Asn Gln Lys Gln Lys Gln Asp Asp Lys Glu Gln Asp  
 260 265 270  
 Ser Tyr Lys Ile Glu Glu Ala Arg Leu  
 275 280

<210> 708  
 <211> 170  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 708  
 Tyr Ala Val Ala Lys Tyr Pro Leu Glu Pro Val Leu Ala Ile Lys Lys  
 1 5 10 15  
 Asp Arg Val Asp Arg Ala Glu Lys Val Val Lys Glu Lys Arg Arg Leu  
 20 25 30  
 Leu Glu Ile Glu Gln Glu Lys Leu Arg Glu Lys Glu Ala Glu Arg Asp  
 35 40 45  
 Lys Val Lys Asn His Tyr Met Gln Lys Ile Gln Gln Leu Arg Asp Leu  
 50 55 60  
 Leu Asp Glu Gly Thr Thr Ser Asp Ala Val Leu Gln Ile Lys Ser Tyr  
 65 70 75 80  
 Ile Lys Val Val Ala Val Gln Leu Ser Glu Glu Glu Lys Val Asn  
 85 90 95  
 Lys Gln Lys Glu Val Val Leu Ala Ala Ser Lys Glu Leu Glu Lys Ala  
 100 105 110  
 Glu Val Asn Leu Ala Lys Arg Arg Lys Glu Glu Glu Lys Thr Arg Leu  
 115 120 125  
 His Lys Glu Glu Trp Met Lys Glu Ala Leu Lys Glu Glu Ala Arg Ala  
 130 135 140  
 Glu Glu Lys Glu Gln Asp Glu Met Gly Gln Leu Leu Phe Gln Leu Arg  
 145 150 155 160  
 Gln Lys Lys Lys Arg Glu Ser Gly Gly Ser  
 165 170

<210> 709  
 <211> 444  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 709  
 Val Asn Met Asp Gln Leu Thr Thr Asp Phe Asp Thr Leu Met Ser Gln  
 1 5 10 15  
 Leu Gly Asp Val Asn Leu Thr Thr Val Gly Arg Ile Thr Glu Val  
 20 25 30  
 Val Gly Met Leu Ile Lys Ala Val Val Pro Asn Val Arg Val Gly Glu  
 35 40 45  
 Val Cys Leu Val Lys Arg Asn Gly Met Glu Pro Leu Val Thr Glu Val  
 50 55 60  
 Val Gly Phe Thr Gln Ser Phe Ala Phe Leu Ser Pro Leu Gly Glu Leu  
 65 70 75 80  
 Ser Gly Val Ser Pro Ser Ser Glu Val Ile Pro Thr Gly Leu Pro Leu  
 85 90 95  
 His Ile Arg Ala Gly Asn Gly Leu Leu Gly Arg Val Leu Asn Gly Leu  
 100 105 110  
 Gly Glu Pro Ile Asp Val Glu Thr Lys Gly Pro Leu Gln Asn Val Asp  
 115 120 125  
 Gln Thr Phe Pro Ile Phe Arg Ala Pro Pro Asp Pro Leu His Arg Ala  
 130 135 140  
 Lys Leu Arg Gln Ile Leu Ser Thr Gly Val Arg Cys Ile Asp Gly Met  
 145 150 155 160  
 Leu Thr Val Ala Arg Gly Gln Arg Ile Gly Ile Phe Ala Gly Ala Gly  
 165 170 175  
 Val Gly Lys Ser Ser Leu Leu Gly Met Ile Ala Arg Asn Ala Glu Glu  
 180 185 190  
 Ala Asp Val Asn Val Ile Ala Leu Ile Gly Glu Arg Gly Arg Glu Val  
 195 200 205  
 Arg Glu Phe Ile Glu Gly Asp Leu Gly Glu Glu Gly Met Lys Arg Ser  
 210 215 220  
 Val Ile Val Val Ser Thr Ser Asp Gln Ser Ser Gln Leu Arg Leu Asn  
 225 230 235 240  
 Ala Ala Tyr Val Gly Thr Ala Ile Ala Glu Tyr Phe Arg Asp Gln Gly  
 245 250 255  
 Lys Thr Val Val Leu Met Met Asp Ser Val Thr Arg Phe Ala Arg Ala  
 260 265 270  
 Leu Arg Glu Val Gly Leu Ala Ala Gly Glu Pro Pro Ala Arg Ala Gly  
 275 280 285  
 Tyr Thr Pro Ser Val Phe Ser Thr Leu Pro Arg Leu Leu Glu Arg Ser  
 290 295 300  
 Gly Ala Ser Asp Lys Gly Thr Ile Thr Ala Phe Tyr Thr Val Leu Val  
 305 310 315 320  
 Ala Gly Asp Asp Met Asn Glu Pro Val Ala Asp Glu Val Lys Ser Ile  
 325 330 335  
 Leu Asp Gly His Ile Val Leu Ser Asn Ala Leu Ala Gln Ala Tyr His  
 340 345 350  
 Tyr Pro Ala Ile Asp Val Leu Ala Ser Ile Ser Arg Leu Leu Thr Ala  
 355 360 365  
 Ile Val Pro Glu Glu Gln Arg Arg Ile Ile Gly Lys Ala Arg Glu Val  
 370 375 380  
 Leu Ala Lys Tyr Lys Ala Asn Glu Met Leu Ile Arg Ile Gly Glu Tyr  
 385 390 395 400  
 Arg Arg Gly Ser Asp Arg Glu Ile Asp Phe Ala Ile Asp His Ile Asp  
 405 410 415  
 Lys Leu Asn Arg Phe Leu Lys Gln Asp Ile His Glu Lys Thr Asn Tyr  
 420 425 430

Glu Glu Ala Ala Gln Gln Leu Arg Ala Ile Phe Arg  
 435 440

<210> 710  
 <211> 235  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 710  
 Ala Phe Lys Thr Val Lys Arg Phe Phe Cys Phe Met Ile Asp Pro Val  
 1 5 10 15  
 Glu Cys Phe Pro Asn Leu Asp Gly Asp Ala Glu Ala Gln Ser Ile Thr  
 20 25 30  
 Gln Asn Ser Gly Thr Pro Leu Ala Ser Glu Leu Lys Lys Asp Ile Ser  
 35 40 45  
 Pro Phe Ala Leu Gly Ser Tyr Ala Ala Pro Lys Asp Thr Thr Leu Val  
 50 55 60  
 Gln Gly Phe Lys Pro Asn Pro Met Ala Met Met Gln Asp Gln Asn Ser  
 65 70 75 80  
 Asn Leu Ile Asp Pro Glu Leu Gln Glu Ala Leu Glu Ser Glu Glu Leu  
 85 90 95  
 Gln Glu Gln Ile Asn Asn Leu Lys Gly Arg Leu Trp Asp Phe Arg Ser  
 100 105 110  
 Thr Phe Glu Asp Ser Gln Thr Thr Ala Gln Phe Ala Asp Glu His Phe  
 115 120 125  
 Gln Ala Val Gly Val Ile Ile Asp Leu Ile Asn Glu Asp Leu Asn Thr  
 130 135 140  
 Ile Ala Glu His Thr Gln Gln Asp Ala Arg Lys Glu Asp Lys Glu Glu  
 145 150 155 160  
 Gly Ser Val Thr Arg Lys Ile Ile Asp Trp Val Ser Ser Gly Glu Glu  
 165 170 175  
 Val Leu Asn Arg Ala Leu Leu Tyr Phe Ser Asp Arg Asp Gly Asn Arg  
 180 185 190  
 Glu Ser Leu Ala Asn Phe Leu Lys Val Gln Tyr Ala Val Gln Arg Ala  
 195 200 205  
 Thr Gln Arg Ala Glu Leu Phe Ala Ser Ile Val Gly Thr Ser Val Ser  
 210 215 220  
 Ser Val Lys Thr Ile Met Thr Thr Gln Leu Gly  
 225 230 235

<210> 711  
 <211> 154  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 711  
 Tyr Lys Arg Glu Ile Met Ala Asp Leu Glu Val Phe Gln Ala Asp Phe  
 1 5 10 15  
 Ala Leu Leu Phe Glu Ala Gly Leu Leu Ala Ile Lys Gln Gly Asp Glu  
 20 25 30  
 Asp Ser Ala Arg Lys Leu Phe Gln Ser Leu His Ile Leu Asn Pro Asn  
 35 40 45  
 His Tyr Gly His Asp Leu Gly Leu Ala Leu Ile Ser Leu His Lys Met  
 50 55 60  
 Asp Leu Phe Asp Ala Glu Glu Arg Leu Ser Ala Leu Ile Lys Gly Asn  
 65 70 75 80  
 Glu Asp Asn Trp Ser Ile Lys Ala Phe Leu Ser Leu Thr His Met Leu  
 85 90 95  
 Ile Val Leu His Gln Gly Ser Ser Phe Glu Val Arg Arg Glu Ser Leu  
 100 105 110

Glu Ser Cys Leu Lys Phe Ala Asp Gln Val Ile Ala Asn Cys Lys Ile  
 115 120 125  
 Glu Ser Thr Arg Ala Leu Ala Gln Ser Val Leu Asp Trp His Asp Thr  
 130 135 140  
 Leu Val Ala Lys Ser Ala Gly Pro Leu Gly  
 145 150

<210> 712  
 <211> 91  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 712  
 Arg Ser Arg Gly Glu Lys Ser Met Ala Thr Asn Lys Ser Cys Thr Ala  
 1 5 10 15  
 Phe Asp Phe Asn Lys Met Leu Asp Gly Val Cys Thr Tyr Val Lys Gly  
 20 25 30  
 Val Gln Gln Tyr Leu Thr Glu Leu Glu Thr Ser Thr Gln Gly Thr Val  
 35 40 45  
 Asp Leu Gly Thr Met Phe Asn Leu Gln Phe Arg Met Gln Ile Leu Ser  
 50 55 60  
 Gln Tyr Met Glu Ser Val Ser Asn Ile Leu Thr Ala Val Asn Thr Glu  
 65 70 75 80  
 Met Ile Thr Met Ala Arg Ala Val Lys Gly Ser  
 85 90

<210> 713  
 <211> 102  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 713  
 Thr Thr Ile Asn Asn Gln Val Leu Gly Phe Ile Asn Tyr Leu Tyr Leu  
 1 5 10 15  
 Gly Arg Tyr Ser Met Phe Asn Met Glu Asn Thr Ala Lys Glu Glu Lys  
 20 25 30  
 Asn Ser Gln Pro Leu Leu Asp Leu Glu Gln Asp Met Gln Asp His Asp  
 35 40 45  
 Arg Ala Gln Glu Leu Lys Ala Ser Val Gln Asp Lys Val His Lys Leu  
 50 55 60  
 His Ala Leu Leu Arg Glu Gly Ser Asp Lys Glu Ser Phe Gly Gln Gln  
 65 70 75 80  
 Gln Ser Leu Leu Ala Gly Tyr Val Ala Leu Gln Lys Val Leu Gly Arg  
 85 90 95  
 Ile Asn Arg Lys Met Ile  
 100

<210> 714  
 <211> 845  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 714  
 Met Ala Val Arg Leu Ile Val Asp Glu Gly Pro Leu Ser Gly Val Ile  
 1 5 10 15  
 Phe Val Leu Glu Asp Gly Ile Ser Trp Ser Ile Gly Arg Asp Ser Ser  
 20 25 30  
 Ala Asn Asp Ile Pro Ile Glu Asp Pro Lys Leu Gly Ala Ser Gln Ala  
 35 40 45  
 Ile Ile Asn Lys Thr Asp Gly Ser Tyr Tyr Ile Thr Asn Leu Asp Asp  
 50 55 60

Thr	Ile	Pro	Ile	Val	Val	Asn	Gly	Val	Ala	Ile	Gln	Glu	Thr	Thr	Gln
65					70					75					80
Leu	Lys	Asn	Glu	Asp	Thr	Ile	Leu	Leu	Gly	Ser	Asn	Gln	Tyr	Ser	Phe
				85					90					95	
Leu	Ser	Asp	Glu	Phe	Asp	Pro	Gln	Asp	Leu	Val	Tyr	Asp	Phe	Asp	Ile
			100					105					110		
Pro	Glu	Glu	Asn	Phe	Ser	Asn	Asp	Ser	Gly	Asp	Leu	Ser	Asp	Ser	Asn
		115					120					125			
Glu	Gln	Gly	Lys	Asp	Leu	Glu	Pro	Arg	Gln	Thr	Ser	Glu	Thr	Asn	His
	130					135					140				
Ser	Pro	Lys	Pro	Lys	Glu	Lys	Leu	Thr	Lys	Asp	Gln	Gly	Ser	Ser	Asp
145					150					155					160
Pro	Ile	Thr	Ser	Gly	Asp	Gln	Glu	Leu	Ala	Asp	Ala	Phe	Leu	Ala	Ser
				165					170						175
Ala	Lys	Ala	Glu	Lys	Asn	Gln	Pro	Arg	Ala	Lys	Val	Ala	Lys	Lys	Gly
			180					185					190		
Leu	Lys	Glu	Ser	Ser	Asn	Glu	Ser	Leu	Asn	Pro	Lys	Glu	Gln	Asn	Ala
		195					200					205			
Lys	Asp	Ser	Pro	Lys	Gly	Glu	Glu	Arg	Thr	Asn	Lys	Pro	Gln	Asn	Ala
	210					215					220				
Ile	Met	Glu	Asp	Asn	Gly	Ala	Ser	Pro	Arg	Gln	Asp	Pro	Gln	Pro	Lys
225					230					235					240
Ser	Ala	Glu	Pro	Ser	Leu	Lys	Asn	Thr	Ala	Arg	Asp	Glu	Thr	Pro	Leu
				245					250					255	
Lys	Glu	Asn	Lys	Pro	Val	Glu	Glu	Lys	Ala	Asn	Lys	Lys	Ala	Thr	Pro
		260						265					270		
Asp	Ser	Pro	Glu	Lys	Lys	Asp	Gln	Pro	Glu	Glu	Gly	Ser	Lys	Lys	Glu
	275						280					285			
Gly	Ser	Lys	Ile	Glu	Ala	Thr	Pro	Leu	Asp	Ser	Gln	Lys	Glu	Ser	Glu
	290					295					300				
Asp	Lys	Glu	Ala	Glu	Glu	Ala	Phe	Val	Gln	Glu	Glu	Glu	Glu	Asn	Leu
305					310					315					320
Thr	Glu	Asp	Asn	Lys	Glu	Asp	Ser	Asp	Ser	Ala	Ala	Asp	Ala	Asn	Asp
			325						330					335	
Asp	Thr	Ala	Ser	Asp	His	Thr	Ala	Glu	Asp	Asn	Lys	Glu	Thr	Pro	Lys
		340						345					350		
Lys	Val	Glu	Asn	Glu	Lys	Ser	Ala	Val	Leu	Ser	Pro	Phe	His	Val	Gln
		355					360					365			
Asp	Leu	Phe	Arg	Phe	Asp	Gln	Thr	Ile	Phe	Pro	Ala	Glu	Ile	Asp	Asp
	370					375					380				
Ile	Ala	Lys	Lys	Asn	Ile	Ser	Val	Asp	Leu	Thr	Gln	Pro	Ser	Arg	Phe
385					390					395					400
Leu	Leu	Lys	Val	Leu	Ala	Gly	Ala	Asn	Ile	Gly	Ala	Glu	Phe	His	Leu
			405						410					415	
Asp	Ser	Gly	Lys	Thr	Tyr	Ile	Leu	Gly	Thr	Asp	Pro	Thr	Thr	Cys	Asp
			420					425					430		
Ile	Val	Phe	Asn	Asp	Leu	Ser	Val	Ser	His	Gln	His	Ala	Lys	Ile	Thr
		435					440					445			
Val	Gly	Asn	Asp	Gly	Gly	Ile	Leu	Ile	Glu	Asp	Leu	Asp	Ser	Lys	Asn
	450					455					460				
Gly	Val	Ile	Val	Glu	Gly	Arg	Lys	Ile	Asp	Lys	Thr	Ser	Thr	Leu	Ser
465					470					475					480
Ser	Asn	Gln	Val	Val	Ala	Leu	Gly	Thr	Thr	Leu	Phe	Leu	Leu	Ile	Asp
			485						490					495	
His	His	Ala	Pro	Ala	Asp	Thr	Ile	Val	Ala	Ser	Leu	Ser	Pro	Asp	Asp
		500							505				510		
Tyr	Ser	Leu	Phe	Gly	Arg	Gln	Gln	Asp	Ala	Glu	Ala	Leu	Glu	Arg	Gln
		515					520					525			
Glu	Ala	Gln	Glu	Glu	Glu	Glu	Lys	Gln	Lys	Arg	Ala	Thr	Leu	Pro	Ala
	530					535					540				

Gly Ser Phe Ile Leu Thr Leu Phe Val Gly Gly Leu Ala Ile Leu Phe  
 545 550 555 560  
 Gly Ile Gly Thr Ala Ser Leu Phe His Thr Lys Glu Val Val Pro Leu  
 565 570 575  
 Glu Asn Ile Asp Tyr Gln Glu Asp Leu Ala Gln Val Ile Asn Gln Phe  
 580 585 590  
 Pro Thr Val Arg Tyr Thr Phe Asn Lys Thr Asn Ser Gln Leu Phe Leu  
 595 600 605  
 Ile Gly His Val Lys Asn Ser Thr Asp Lys Ser Glu Leu Leu Tyr Lys  
 610 615 620  
 Val Asp Ala Leu Ser Phe Val Lys Ser Val Asp Asp Asn Val Ile Asp  
 625 630 635 640  
 Asp Glu Ala Val Trp Gln Glu Met Asn Ile Leu Leu Ser Lys Arg Pro  
 645 650 655  
 Glu Phe Lys Gly Ile Ser Met His Ser Pro Glu Pro Gly Lys Phe Ile  
 660 665 670  
 Ile Thr Gly Tyr Val Lys Thr Glu Glu Gln Ala Ala Cys Leu Val Asp  
 675 680 685  
 Tyr Leu Asn Ile His Phe Asn Tyr Leu Ser Leu Leu Glu Asn Lys Val  
 690 695 700  
 Val Val Glu Thr Gln Met Leu Lys Ala Ile Ala Gly His Leu Leu Gln  
 705 710 715 720  
 Gly Gly Phe Ala Asn Ile His Val Ala Phe Val Asn Gly Glu Val Ile  
 725 730 735  
 Leu Thr Gly Tyr Val Asn Asn Asp Asp Ala Glu Lys Phe Arg Ala Val  
 740 745 750  
 Val Gln Glu Leu Ser Gly Ile Pro Gly Val Arg Leu Val Lys Asn Phe  
 755 760 765  
 Ala Val Leu Leu Pro Ala Glu Gly Ile Ile Asp Leu Asn Leu Arg  
 770 775 780  
 Tyr Pro Asn Arg Tyr Arg Val Thr Gly Tyr Ser Arg Tyr Gly Glu Ile  
 785 790 795 800  
 Ser Ile Asn Val Val Val Asn Gly Arg Ile Leu Thr Arg Gly Asp Val  
 805 810 815  
 Ile Asp Gly Met Thr Val Thr Ser Ile Gln Pro Asn Ala Ile Phe Leu  
 820 825 830  
 Glu Lys Glu Gly Leu Lys Tyr Lys Ile Asp Tyr Asn Lys  
 835 840 845

<210> 715

<211> 162

<212> PRT

<213> Chlamydia pneumoniae

<400> 715

Leu Asp Leu Lys Glu Glu Lys Ala Gly Phe Arg Asn Glu Ile Val Ser  
 1 5 10 15  
 Ile Pro Gln Gly Thr Lys Thr Thr Ile Ala Ala Leu Glu Asn Thr Ser  
 20 25 30  
 Met Leu Glu Lys Leu Ile Lys Asn Phe Ala Thr Tyr Met Gly Ile Thr  
 35 40 45  
 Ser Thr Leu Glu Leu Asp Ala Asp Gly Ala Tyr Val Leu Pro Ile Ser  
 50 55 60  
 Glu Val Val Lys Val Arg Ala Gln Gln Asn Ala Asp Asn Glu Ile Val  
 65 70 75 80  
 Leu Ser Ala Ser Leu Gly Ala Leu Pro Pro Ser Ala Asp Thr Ala Lys  
 85 90 95  
 Leu Tyr Leu Gln Met Met Ile Gly Asn Leu Phe Gly Arg Glu Thr Gly  
 100 105 110  
 Gly Ser Ala Leu Gly Leu Asp Ser Glu Gly Asn Val Val Met Val Arg  
 115 120 125



Arg Phe Ser Gly Asp Thr Thr Tyr Asp Asp Phe Val Arg His Val Glu  
 130 135 140  
 Ser Phe Met Asn Phe Ser Glu Thr Trp Leu Ser Asp Leu Gly Leu Gly  
 145 150 155 160  
 Lys Gln

<210> 716  
 <211> 345  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 716  
 Asn Tyr Arg Ile Val Leu Met Val Leu Gly Val Val Gly Ile Ser Tyr  
 1 5 10 15  
 Arg Glu Ala Ala Leu Lys Glu Arg Glu Arg Ala Ile Gln Tyr Leu Gln  
 20 25 30  
 Ser Phe Glu Lys Asn Leu Phe Leu Ala Gln Arg Phe Leu Gly Lys Gly  
 35 40 45  
 Gly Ala Phe Ile Pro Leu Leu Thr Cys His Arg Ala Glu Leu Tyr Tyr  
 50 55 60  
 Tyr Ser Glu Ser Pro Glu Ile Ala Gln Ala Ala Leu Leu Ser Glu Leu  
 65 70 75 80  
 Thr Ser Gln Gly Ile Arg Pro Tyr Arg His Arg Gly Leu Ser Cys Phe  
 85 90 95  
 Thr His Leu Phe Gln Val Thr Ser Gly Ile Asp Ser Leu Ile Phe Gly  
 100 105 110  
 Glu Thr Glu Ile Gln Gly Gln Val Lys Arg Ala Tyr Leu Lys Gly Ser  
 115 120 125  
 Lys Glu Arg Glu Leu Pro Phe Asp Leu His Phe Leu Phe Gln Lys Ala  
 130 135 140  
 Leu Lys Glu Gly Lys Glu Tyr Arg Ser Arg Ile Gly Phe Pro Asp His  
 145 150 155 160  
 Gln Val Thr Ile Glu Ser Val Val Gln Glu Ile Leu Leu Ser Tyr Asp  
 165 170 175  
 Lys Ser Ile Tyr Thr Asn Phe Leu Phe Val Gly Tyr Ser Asp Ile Asn  
 180 185 190  
 Arg Lys Val Ala Ala Tyr Leu Tyr Gln His Gly Tyr His Arg Ile Thr  
 195 200 205  
 Phe Cys Ser Arg Gln Gln Val Thr Ala Pro Tyr Arg Thr Leu Ser Arg  
 210 215 220  
 Glu Thr Leu Ser Phe Arg Gln Pro Tyr Asp Val Ile Phe Phe Gly Ser  
 225 230 235 240  
 Ser Glu Ser Ala Ser Gln Phe Ser Asp Leu Ser Cys Glu Ser Leu Ala  
 245 250 255  
 Ser Ile Pro Lys Arg Ile Val Phe Asp Phe Asn Val Pro Arg Thr Phe  
 260 265 270  
 Leu Trp Lys Glu Thr Pro Thr Gly Phe Val Tyr Leu Asp Ile Asp Phe  
 275 280 285  
 Ile Ser Glu Cys Val Gln Lys Arg Leu Gln Cys Thr Lys Glu Gly Val  
 290 295 300  
 Asn Lys Ala Lys Leu Leu Leu Thr Cys Ala Ala Lys Lys Gln Trp Glu  
 305 310 315 320  
 Ile Tyr Glu Lys Lys Ser Ser His Ile Thr Gln Arg Gln Ile Ser Ser  
 325 330 335  
 Pro Arg Ile Pro Ser Val Leu Ser Tyr  
 340 345

<210> 717  
 <211> 609  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 717  
 Lys Phe Asn Lys Ile Ser His Met Ala Ala Tyr Thr Glu Ala Ser Ile  
 1 5 10 15  
 Leu Ser Leu Ala Ser Leu Asp His Ile Arg Leu Arg Ala Gly Met Tyr  
 20 25 30  
 Ile Gly Arg Leu Gly Asn Gly Ser Gln Lys Glu Asp Gly Ile Tyr Thr  
 35 40 45  
 Leu Phe Lys Glu Val Val Asp Asn Gly Ile Asp Glu Phe Ile Met Gly  
 50 55 60  
 His Gly Lys Ser Leu Lys Ile Ser Ala Ser Asp Lys Gln Ile Ser Ile  
 65 70 75 80  
 Gln Asp Gln Gly Arg Gly Ile Pro Leu Gly Lys Leu Ile Asp Cys Val  
 85 90 95  
 Ser Lys Ile Asn Thr Gly Ala Lys Tyr Thr Gln Asp Val Phe His Phe  
 100 105 110  
 Ser Val Gly Leu Asn Gly Val Gly Leu Lys Ala Val Asn Ala Leu Ser  
 115 120 125  
 Glu Ile Phe Ser Val Arg Ser Val Arg Lys Lys Lys Tyr His Leu Ala  
 130 135 140  
 Thr Phe His Arg Gly Val Leu Gln Glu Ser Lys Gln Gly Ser Thr Lys  
 145 150 155 160  
 Asp Pro Asp Gly Thr Phe Val Ser Phe Thr Pro Asp Pro Ser Ile Phe  
 165 170 175  
 Pro Glu Phe Thr Phe Asn His Asp Phe Leu Lys Asp Lys Ile Arg Gln  
 180 185 190  
 Tyr Thr Tyr Leu His Ser Gly Leu Glu Ile Arg Phe Asn Asp Glu Val  
 195 200 205  
 Phe Ile Ser His Asn Gly Leu Lys Asp Leu Phe Asp Ala Glu Ile Thr  
 210 215 220  
 Glu Pro Pro Leu Tyr Ser Pro Leu Phe Phe Gln Asn Glu Asp Leu Thr  
 225 230 235 240  
 Phe Ile Phe Ser His Leu Glu Gly Asn Thr Glu Arg Tyr Phe Ser Phe  
 245 250 255  
 Val Asn Gly Gln Glu Thr Leu Asp Gly Gly Thr His Leu Thr Ala Phe  
 260 265 270  
 Lys Glu Ala Ile Val Lys Gly Val Asn Glu Phe Phe Gly Lys Thr Phe  
 275 280 285  
 Val Ser Asn Asp Ile Arg Glu Gly Ile Val Gly Cys Ile Ala Ile Lys  
 290 295 300  
 Ile Ala Ser Pro Ile Phe Glu Ser Gln Thr Lys Asn Lys Leu Gly Asn  
 305 310 315 320  
 Thr Gln Ile Arg Ser Ser Leu Ile Lys Asp Val Lys Glu Ala Ile Val  
 325 330 335  
 Gln Ala Leu Arg Lys Asp Lys Val Ala Pro Glu Leu Leu Leu Glu Lys  
 340 345 350  
 Ile Lys Phe Asn Glu Lys Thr Arg Lys Asn Ile Gln Phe Ile Lys Gln  
 355 360 365  
 Asp Leu Lys Ser Lys Gln Lys Lys Val His Tyr Lys Ile Pro Lys Leu  
 370 375 380  
 Arg Asp Cys Lys Phe His Tyr Asn Asp Arg Ser Leu Tyr Gly Glu Ala  
 385 390 395 400  
 Ser Ser Ile Phe Leu Thr Glu Gly Glu Ser Ala Ser Ala Ser Ile Leu  
 405 410 415  
 Ala Ser Arg Asn Pro Leu Thr Gln Ala Val Phe Ser Leu Arg Gly Lys  
 420 425 430

Pro Met Asn Val Phe Ser Leu Glu Glu Thr Lys Met Tyr Lys Asn Asp  
 435 440 445  
 Glu Leu Phe Tyr Leu Ala Thr Ala Leu Gly Ile Thr Gln Asn Glu Ile  
 450 455 460  
 Gln His Leu Arg Tyr Asn Lys Val Ile Leu Ala Thr Asp Ala Asp Val  
 465 470 475 480  
 Asp Gly Met His Ile Arg Asn Leu Leu Ile Thr Phe Phe Leu Lys Thr  
 485 490 495  
 Leu Leu Pro Leu Val Glu Asn Asn His Leu Phe Ile Leu Glu Thr Pro  
 500 505 510  
 Leu Phe Lys Val Arg Asn Lys Thr Thr Thr Leu Tyr Tyr Tyr Ser Glu  
 515 520 525  
 Gln Glu Lys Met Gln Ala Leu Gln Gln Phe Gly Lys Lys Asp Ser Ser  
 530 535 540  
 Leu Glu Ile Thr Arg Phe Lys Gly Leu Gly Glu Ile Ser Pro Lys Glu  
 545 550 555 560  
 Phe Ala Ala Phe Ile Gly-Pro Glu Ile Arg Leu Thr Pro Val Thr Ile  
 565 570 575  
 Thr Ser Leu Glu Ser Ile Ser Ser Ile Leu Gln Phe Tyr Met Gly Lys  
 580 585 590  
 Asn Thr Lys Glu Arg Lys Gln Phe Ile Met Asp Asn Leu Ile Thr Asp  
 595 600 605  
 Phe

<210> 718  
 <211> 479  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 718  
 Phe Met Arg Asp Val Ser Glu Leu Phe Arg Thr His Phe Met His Tyr  
 1 5 10 15  
 Ala Ser Tyr Val Ile Leu Glu Arg Ala Ile Pro His Ile Leu Asp Gly  
 20 25 30  
 Leu Lys Pro Val Gln Arg Arg Leu Leu Trp Thr Leu Phe Leu Met Asp  
 35 40 45  
 Asp Gly Lys Met His Lys Val Ala Asn Ile Ala Gly Arg Thr Met Ala  
 50 55 60  
 Leu His Pro His Gly Asp Ala Pro Ile Val Glu Ala Leu Val Val Leu  
 65 70 75 80  
 Ala Asn Lys Gly Tyr Leu Ile Asp Thr Gln Gly Asn Phe Gly Asn Pro  
 85 90 95  
 Leu Thr Gly Asp Pro His Ala Ala Arg Tyr Ile Glu Ala Arg Leu  
 100 105 110  
 Ser Pro Leu Ala Arg Glu Thr Leu Phe Asn Thr Asp Leu Ile Ala Phe  
 115 120 125  
 His Asp Ser Tyr Asp Gly Arg Glu Lys Glu Pro Asp Ile Leu Pro Ala  
 130 135 140  
 Lys Leu Pro Val Leu Leu Leu His Gly Val Asp Gly Ile Ala Val Gly  
 145 150 155 160  
 Met Thr Thr Lys Ile Phe Pro His Asn Phe Ala Glu Leu Leu Lys Ala  
 165 170 175  
 Gln Ile Ala Ile Leu Asn Asp Lys Lys Phe Thr Val Phe Pro Asp Phe  
 180 185 190  
 Pro Ser Gly Gly Leu Met Asp Pro Ser Glu Tyr Gln Asp Gly Leu Gly  
 195 200 205  
 Ser Ile Thr Leu Arg Ala Ser Ile Asp Ile Ile Asn Asp Lys Thr Leu  
 210 215 220  
 Val Val Lys Gln Ile Cys Pro Gln Ser Thr Thr Glu Thr Leu Ile Arg  
 225 230 235 240

Ser Ile Glu Asn Ala Ala Lys Arg Gly Thr Ile Lys Ile Asp Thr Ile  
 245 250 255  
 Gln Asp Phe Ser Thr Asp Val Pro His Ile Glu Ile Lys Leu Pro Lys  
 260 265 270  
 Gly Ser Arg Ala Lys Glu Met Leu Pro Leu Leu Phe Glu His Thr Glu  
 275 280 285  
 Cys Gln Val Ile Leu Tyr Ser Lys Pro Thr Val Ile Tyr Glu Asn Lys  
 290 295 300  
 Pro Val Glu Cys Ser Ile Ser Glu Ile Leu Lys Leu His Thr Thr Ala  
 305 310 315 320  
 Leu Gln Gly Tyr Leu Glu Lys Glu Leu Leu Leu Leu Gln Glu Gln Leu  
 325 330 335  
 Thr Leu Asp His Tyr His Lys Thr Leu Glu Tyr Ile Phe Ile Lys His  
 340 345 350  
 Lys Leu Tyr Asp Ser Val Arg Glu Val Leu Ala Ile Asn Lys Lys Ile  
 355 360 365  
 Ser Ala Asp Asp Leu His Gln Ala Val Leu His Ala Leu Glu Pro Trp  
 370 375 380  
 Leu His Glu Leu Ala Thr Pro Val Thr Lys Gln Asp Thr Ser Gln Leu  
 385 390 395 400  
 Ala Ser Leu Thr Ile Lys Lys Ile Leu Cys Phe Asn Glu Glu Ala Cys  
 405 410 415  
 Thr Lys Glu Leu Leu Ala Ile Glu Lys Lys Gln Ala Ala Ile Gln Lys  
 420 425 430  
 Asp Leu Gly Arg Ile Lys Glu Val Thr Val Lys Tyr Leu Lys Gly Leu  
 435 440 445  
 Leu Glu Arg His Gly His Leu Gly Glu Arg Lys Thr Gln Ile Thr Asn  
 450 455 460  
 Phe Lys Thr Ala Lys Thr Ser Ile Leu Lys Gln Gln Thr Leu Ile  
 465 470 475

<210> 719  
 <211> 113  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 719  
 Ile Arg Ile Lys Phe Ile Asp Thr Ile Thr Ile Val Val Arg Met Glu  
 1 5 10 15  
 Pro Arg His Ile Tyr Ile Arg Lys Pro Glu Thr Pro Lys Ala Pro Asp  
 20 25 30  
 Val Glu Lys Pro Gly Val Pro Glu Tyr Met Thr Met Ala Asn Thr Pro  
 35 40 45  
 Thr Phe Glu Gly Pro Val Lys Thr Leu Asp Gln Leu Arg Arg Ala Leu  
 50 55 60  
 Ile Glu Gln Arg Gly Ala Glu Glu Gly Gln Lys Met Tyr Asp Asn Phe  
 65 70 75 80  
 Ile Gln Ser Ile Leu Ile Ser Thr Phe Gly Leu Val His Lys Asp Met  
 85 90 95  
 Asp Arg Ala Gln Lys Ala Ser Lys Arg Met Arg Ser Val Tyr Lys Glu  
 100 105 110  
 Gln

<210> 720  
 <211> 109  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 720  
 Arg Ala Val Met Ser Phe Thr Tyr Phe Leu Ala Leu Pro Val Asp Arg  
 1 5 10 15  
 Leu Met Gln Glu Arg Phe Leu Cys Ser Pro Lys Arg Trp Ala Pro Phe  
 20 25 30  
 Ile Asn Ser Pro Leu Tyr Leu Thr Leu Ile Ala Asp His Asp Thr Pro  
 35 40 45  
 Tyr Leu Ala Lys Asn Leu Asp Lys Phe Pro Leu Pro Val Glu Gln Trp  
 50 55 60  
 Glu Lys Thr Val Leu His Val Ser Ser Leu Leu Lys Ser Ile Phe Leu  
 65 70 75 80  
 Cys Ser Asp Leu Ser Ser Leu Arg Leu Leu Ala Cys Thr Lys Phe Glu  
 85 90 95  
 Ile Leu Thr Leu Asn Asp Leu Tyr Cys Ala Gln Asn Ile  
 100 105

<210> 721

<211> 338

<212> PRT

<213> Chlamydia pneumoniae

<400> 721  
 Phe Asp Ile Lys Leu Val Lys Lys Val Ile Lys Ile Ser Met Lys Thr  
 1 5 10 15  
 Val Thr Ser Phe Thr Val Cys Lys Glu Asn Ser Gly Arg Leu Asp Lys  
 20 25 30  
 Tyr Leu Thr Glu Val His Pro Lys Tyr Ser Arg Ala Phe Tyr Gln Glu  
 35 40 45  
 His Ile Leu Ser Gly Leu Val Gln Ile Asn Gly Gln Ile Asn Thr Arg  
 50 55 60  
 Val Ala Thr Arg Leu Asn Cys Gly Asp Ile Val Thr Ile Asp Ile Gln  
 65 70 75 80  
 Glu Lys Glu Glu Leu Leu Glu Leu Leu Pro Glu Ala Ile Pro Leu Asp  
 85 90 95  
 Lys Val Tyr Glu Asp Gly Met Ile Leu Val Ile Asn Lys Pro Arg Asp  
 100 105 110  
 Met Val Val His Pro Ala Pro Gly His Phe His Gly Thr Leu Val His  
 115 120 125  
 Ala Leu Leu His Glu Ile Gly Glu Arg Leu Lys Glu Glu Phe Pro Glu  
 130 135 140  
 Glu Pro Trp Arg Pro Gly Ile Val His Arg Leu Asp Lys Asp Thr Ser  
 145 150 155 160  
 Gly Leu Ile Ile Thr Ala Lys Thr Arg Gln Ala Lys Lys Val Phe Ser  
 165 170 175  
 Glu Leu Phe Ser Thr Lys Arg Leu Lys Lys Ser Tyr Leu Ala Val Cys  
 180 185 190  
 Ile Gly Lys Pro Arg Ser Thr Thr Ile His Thr His Ile Ser Arg His  
 195 200 205  
 Gln Asn Lys Arg Lys Glu Met Thr Val Ser Ser Gln Gly Lys Glu Ala  
 210 215 220  
 Val Thr His Cys Gln Val Leu Ala Phe Asn Gly Lys Leu Ser Phe Val  
 225 230 235 240  
 Ala Leu Ser Pro Glu Thr Gly Arg Thr His Gln Leu Arg Val His Met  
 245 250 255  
 Lys His Leu Gly Thr Pro Ile Leu Gly Asp Pro Val Tyr Gly Ile Pro  
 260 265 270  
 Ser Met Asn Ser Ser Tyr Gly Leu Asp Lys Gln Gln Leu His Ala Tyr  
 275 280 285  
 Ser Val Asp Phe Thr His Pro Glu Thr Arg Gln Phe Cys Ser Leu Lys  
 290 295 300

Ala Gly Leu Pro Glu Asp Met Arg Ser Leu Leu Ile Lys Glu Phe Arg  
 305 310 315 320  
 Asn Glu Thr Thr Ile Leu Asn Lys Asn Leu Leu Glu Ser Ile Leu Lys  
 325 330 335  
 Glu Gln

<210> 722  
 <211> 82  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 722  
 Leu Arg Ile Thr Met Lys Glu Phe Leu Ala Tyr Ile Ile Lys Asn Leu  
 1 5 10 15  
 Val Asp Arg Pro Glu Glu Val Arg Ile Lys Glu Val Gln Gly Thr His  
 20 25 30  
 Thr Ile Ile Tyr Glu Leu Ser Val Ala Lys Pro Asp Ile Gly Lys Ile  
 35 40 45  
 Ile Gly Lys Glu Gly Arg Thr Ile Lys Ala Ile Arg Thr Leu Leu Val  
 50 55 60  
 Ser Val Ala Ser Arg Asn Val Arg Val Ser Leu Glu Ile Met Glu  
 65 70 75 80  
 Glu Lys

<210> 723  
 <211> 273  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 723  
 Lys Arg Met Val Met Phe Asn Asn Lys Met Ile Leu Ile Ala Gly Pro  
 1 5 10 15  
 Cys Val Ile Glu Gly Glu Asp Ile Thr Leu Glu Ile Ala Gly Lys Leu  
 20 25 30  
 Gln Ser Ile Leu Ala Pro Tyr Ser Asp Arg Ile Gln Trp Phe Phe Lys  
 35 40 45  
 Ser Ser Tyr Asp Lys Ala Asn Arg Ser Ser Leu Asn Ser Phe Arg Gly  
 50 55 60  
 Pro Gly Leu Thr Glu Gly Leu Arg Ile Leu Ala Lys Val Lys Glu Thr  
 65 70 75 80  
 Phe Gly Val Gly Ile Leu Thr Asp Val His Thr Pro Gln Asp Ala Tyr  
 85 90 95  
 Ala Ala Ala Glu Val Cys Asn Ile Leu Gln Val Pro Ala Phe Leu Cys  
 100 105 110  
 Arg Gln Thr Asp Leu Leu Val Ala Thr Ala Glu Thr Gly Ala Ile Val  
 115 120 125  
 Asn Leu Lys Lys Gly Gln Phe Leu Ser Pro Trp Asp Met Glu Gly Pro  
 130 135 140  
 Ile Asn Lys Val Leu Ser Thr Gly Asn Asn Lys Ile Leu Leu Thr Glu  
 145 150 155 160  
 Arg Gly Cys Ser Phe Gly Tyr Asn Asn Leu Val Ser Asp Met Arg Ser  
 165 170 175  
 Ile Pro Val Leu Ser Arg Ser Gly Phe Pro Val Ile Phe Asp Ala Thr  
 180 185 190  
 His Ser Val Gln Leu Pro Gly Ala Leu Ser Thr Glu Ser Gly Gly Leu  
 195 200 205  
 Thr Glu Phe Val Pro Thr Leu Ser Arg Ala Ala Leu Ala Ala Gly Ala  
 210 215 220

His Gly Leu Phe Ile Glu Thr His Thr Asn Pro Lys Ile Ala Lys Ser  
 225 230 235 240  
 Asp Ala Ala Ser Met Leu Ser Leu Glu Glu Phe Ala Ala Leu Leu Pro  
 245 250 255  
 Thr Trp Asp Gln Leu Phe Thr Cys Val Ser Ser Phe Asp Met Val Ser  
 260 265 270  
 Ala

<210> 724  
 <211> 166  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 724  
 Tyr Gly Leu Ser Met Thr Lys Phe Leu Tyr Cys Gly Leu Phe Tyr Ser  
 1 5 10 15  
 Leu Gly Leu Leu Val Leu Ala Phe Gly Thr Met Val Ala Ile Ile Gln  
 20 25 30  
 Val Asp Gln Ile Cys Asp Val Ser Cys Met Asn Lys His Phe Gln Glu  
 35 40 45  
 Ser Pro Pro Phe Leu Lys Ile Lys Lys Val Asn Val Ser Lys Gln Ile  
 50 55 60  
 Cys Ser Pro Glu Glu Arg Phe Phe His Cys Lys Ile Asp Lys Ser Cys  
 65 70 75 80  
 Met Glu Leu His Phe Pro Gln Ser Ser Tyr Ser Cys Lys Glu Tyr Leu  
 85 90 95  
 Thr Arg Ile Ser Gly His Ile Leu Thr Gln Asn Phe Glu Lys Gln Met  
 100 105 110  
 Gln Phe Arg Gly Asn Ser Gly Leu Leu Asn Tyr Gln Asp Gly Ser Leu  
 115 120 125  
 His Val Tyr Asp Cys Arg Phe Gln Val Asp Pro Val Pro Gly Tyr Gly  
 130 135 140  
 Ser Pro Asp Lys Glu Asp Ser Ser Ser Gly Gly Met Lys Thr Leu Tyr  
 145 150 155 160  
 Leu Ser Leu Phe Arg Asn  
 165

<210> 725  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 725  
 Ala Ser Met Pro Ile Leu Ser Val Cys Asn Leu Val Lys Lys Tyr Asn  
 1 5 10 15  
 Lys Lys Pro Val Thr Asn Asp Val Ser Phe Gln Ile Asn Pro Gly Glu  
 20 25 30  
 Ile Val Gly Leu Leu Gly Pro Asn Gly Ala Gly Lys Thr Thr Ala Phe  
 35 40 45  
 Tyr Leu Thr Val Gly Leu Ile Arg Pro Asp Ser Gly Lys Ile Ile Phe  
 50 55 60  
 Lys Asn Val Asp Val Thr Lys Lys Thr Met Asp His Arg Ala Arg Leu  
 65 70 75 80  
 Gly Ile Gly Tyr Leu Ala Gln Glu Pro Thr Ile Phe Lys Glu Leu Thr  
 85 90 95  
 Val Gln Asp Asn Leu Ile Cys Ile Leu Glu Ile Ile Tyr Lys Ala Arg  
 100 105 110  
 Lys Gln Gln Ser His Leu Leu Asn Thr Leu Val Asp Asp Leu Gln Leu  
 115 120 125

Gly Ser Cys Leu His Lys Lys Ala Gly Thr Leu Ser Gly Gly Glu Arg  
 130 135 140  
 Arg Arg Leu Glu Ile Ala Cys Val Leu Ala Leu Asn Pro Ser Val Leu  
 145 150 155 160  
 Leu Leu Asp Glu Pro Phe Ala Asn Val Asp Pro Leu Val Ile Gln Asn  
 165 170 175  
 Val Lys Tyr Leu Ile Lys Ile Leu Ala Gly Arg Gly Ile Gly Ile Leu  
 180 185 190  
 Ile Thr Asp His Asn Ala Lys Glu Leu Leu Ser Ile Ala Asp Arg Cys  
 195 200 205  
 Tyr Leu Ile Ile Asp Gly Lys Ile Phe Phe Glu Gly Ser Ser Ser Gln  
 210 215 220  
 Met Ile Ser Asn Pro Met Val Lys Gln His Tyr Leu Gly Asp Ser Phe  
 225 230 235 240  
 Ser Tyr

<210> 726  
 <211> 299  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 726  
 Arg Thr Ser Thr Arg Leu Asp Tyr Arg Ser Gly Cys Ile Leu Ser Lys  
 1 5 10 15  
 Ile Leu Pro Phe Pro Glu Leu Trp Lys Met Leu Leu Gly Phe Leu Cys  
 20 25 30  
 Asp Cys Pro Cys Ala Ser Trp Gln Cys Ala Ala Val Ala Asn Cys Tyr  
 35 40 45  
 Asp Ser Val Phe Met Ser Arg Pro Glu His Lys Pro Asn Ile Pro Tyr  
 50 55 60  
 Ile Thr Lys Ala Thr Arg Arg Gly Leu Arg Met Lys Thr Leu Ala Tyr  
 65 70 75 80  
 Leu Ala Ser Leu Lys Asp Ala Arg Gln Leu Ala Tyr Asp Phe Leu Lys  
 85 90 95  
 Asp Pro Gly Ser Leu Ala Arg Leu Ala Lys Ala Leu Ile Ala Pro Lys  
 100 105 110  
 Glu Ala Leu Gln Glu Gly Asn Leu Phe Phe Tyr Gly Cys Ser Asn Ile  
 115 120 125  
 Glu Asp Ile Leu Glu Glu Met Arg Arg Pro His Arg Ile Leu Leu Leu  
 130 135 140  
 Gly Phe Ser Tyr Cys Gln Lys Pro Lys Ala Cys Pro Glu Gly Arg Phe  
 145 150 155 160  
 Asn Asp Ala Cys Arg Tyr Asp Pro Ser His Pro Thr Cys Ala Ser Cys  
 165 170 175  
 Ser Ile Gly Thr Met Met Arg Leu Asn Ala Arg Arg Tyr Thr Thr Val  
 180 185 190  
 Ile Ile Pro Thr Phe Ile Asp Ile Ala Lys His Leu His Thr Leu Lys  
 195 200 205  
 Lys Arg Tyr Pro Gly Tyr Gln Ile Leu Phe Ala Val Thr Ala Cys Glu  
 210 215 220  
 Leu Ser Leu Lys Met Phe Gly Asp Tyr Ala Ser Val Met Asn Leu Lys  
 225 230 235 240  
 Gly Val Gly Ile Arg Leu Thr Gly Arg Ile Cys Asn Thr Phe Lys Ala  
 245 250 255  
 Phe Lys Leu Ala Glu Arg Gly Val Lys Pro Gly Val Thr Ile Leu Glu  
 260 265 270  
 Glu Asp Gly Phe Glu Val Leu Ala Arg Ile Leu Thr Glu Tyr Ser Ser  
 275 280 285  
 Ala Pro Phe Pro Arg Asp Phe Cys Glu Ile His  
 290 295



<210> 727  
 <211> 81  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 727  
 Ser Cys Gly Asp Val Gly Met Phe Phe Ala Pro Leu Leu Tyr Glu Ser  
 1 5 10 15  
 Leu Arg Arg Gly Leu Met His Pro Thr Ser His Met Gln Gln Gln Leu  
 20 25 30  
 Ala Arg Leu Glu Phe Ile Asn Asp Gln Leu Thr Thr Glu Leu Glu His  
 35 40 45  
 Val Asn Glu Leu Leu Cys Ser Leu Gly Phe Pro Glu Gly Leu Thr Thr  
 50 55 60  
 Ile Lys Ala Ile Ala Glu Val Leu Ser Asp Asp Glu Pro Leu Leu  
 65 70 75 80  
 Asp

<210> 728  
 <211> 835  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 728  
 Ala Asp Ile Asp Met Ile Tyr Ser Thr Ser Ile Ser Thr Phe Tyr Lys  
 1 5 10 15  
 Lys Leu Ser Leu Val Ser Ser Met His Ser Phe Ala Gln Arg His Arg  
 20 25 30  
 Glu Ser Leu Glu His Ile Ala Asn Tyr Glu Lys Thr Thr Ala Glu Arg  
 35 40 45  
 Asp Ile Leu Lys Arg Leu Ile Glu Val Leu Asp Gln Arg Ala Ser Glu  
 50 55 60  
 Arg Tyr Arg Ser Ala Val Glu Lys Leu His Lys Tyr Glu Val Glu Arg  
 65 70 75 80  
 Ala Thr Val Ala Lys Ser Ile Pro Val Ala Ala Ile His Glu Lys Pro  
 85 90 95  
 Leu Ser Ser Thr His Ala Ser Val Gln Val Thr Ala Ser Thr Pro Ala  
 100 105 110  
 Ala Thr Gly Ser Gly Val Gly Ala Tyr Tyr Asn Ala Val Lys Gln Lys  
 115 120 125  
 Trp Ala Gln Asp Leu Ile Val Glu Leu Asn Thr Val Met Thr Thr Ile  
 130 135 140  
 Met Ala Ser Val Asn Ser Lys Asn Pro Ala Asn Lys Asp Val Phe Asp  
 145 150 155 160  
 Lys Leu Asn Thr Glu Leu Gln Ala Leu Val Ala Ala Gly Asn Asn Leu  
 165 170 175  
 Thr Glu Glu Asn Phe Gln Thr Leu Tyr Asn Phe Pro Glu Glu Ile Phe  
 180 185 190  
 Thr Ala Ile Gln Arg Ala Asp Thr Phe Thr Gly Gly Met Lys Thr Asp  
 195 200 205  
 Phe Thr Asn Gln Leu Ala Gly Lys Tyr Gly Asn Gln Ala Thr Leu Thr  
 210 215 220  
 Gln Thr Phe Ala Asp Gly Arg Val Glu Gly Phe Lys Asp Ile Leu Thr  
 225 230 235 240  
 Ala Val Gln Gly Val Leu Thr Pro Glu Gln Phe Thr Ile Phe Ala Glu  
 245 250 255  
 Ile Ala Thr Glu Leu Gln Ala Leu Ala Asp His Val Gly Asn Phe Asp  
 260 265 270  
 Glu Ala Gly Leu Gln Arg Ile Glu Asp Ala Gly Glu Lys Leu Ala Ala  
 275 280 285

Val Ile Asn Ser Ser Asp Leu Thr Arg Asn Asp Lys Ile Met Phe Cys  
290 295 300  
Gln His Ile Thr Asp Leu Tyr Ser Asp Gln Val Ala Ala Leu Gly Ser  
305 310 315 320  
Phe Asp Thr Val Leu Asp Ala Ser Ile Tyr Val Asn Gln His Gln Gly  
325 330 335  
Thr Met Phe Ser Asn Leu Ser Ser Phe Val Gly Ser Leu Ile Gly Thr  
340 345 350  
Phe Ala Pro Ile Asp Leu Ser Ser Ser Gln Gly Asp Ile Ser Ser Ala  
355 360 365  
Ala Leu Ala Gly Ala Leu Gln Thr Ala Arg Gly Leu Asn Ser Arg Phe  
370 375 380  
Asn Glu Leu Thr Ala Glu Gln Gln Lys Leu Ile Asn Glu Cys Ile Lys  
385 390 395 400  
Ser Leu Val Thr Phe Lys Cys Gly Glu His Leu Gly Ala Ile Trp Ala  
405 410 415  
Tyr Phe Thr Ala Ser Thr Val Val Ala Leu Asn Pro Thr Ala Thr Met  
420 425 430  
Asp His Val Lys Ala Ala Ile Leu Glu Glu Ala Lys Glu Leu Asp Asn  
435 440 445  
Ser Ser Phe Gln Leu Ala Ser Ser Ile Lys Ser Ala Met Thr Ser Ile  
450 455 460  
Val Asn Ser Ser Gly Ser Phe Ser Val Thr Val Asn Ser Ser Thr Leu  
465 470 475 480  
Gln Tyr Thr Ile Tyr Ser Glu Lys Asn Gly Lys Val Glu Ile Asn Gln  
485 490 495  
Ile Leu Leu Asn Tyr Gly Ser Thr Gly Phe Leu Pro Glu Ile Thr Lys  
500 505 510  
Leu Ala Lys Thr Asn Ala Glu Ser Thr Ala Arg Ser Tyr Phe Arg Phe  
515 520 525  
Lys Ala Leu Ala Ala Val Glu Ser Glu Asn Val Gln Asn Lys Ile Glu  
530 535 540  
Asp Leu Gln Ser Gln Leu Gln Gln Phe Thr Asn Met Lys Thr Glu Leu  
545 550 555 560  
Phe Asp Gly Gln Leu Leu Ser Gln Ala Ser Glu Leu Arg Ala Leu Pro  
565 570 575  
Leu Pro Ser Ala Val Ala Ser Val Leu Ile Asp Arg Tyr Met Pro Lys  
580 585 590  
Glu Val Asp Tyr Leu Asn Glu Ile Tyr Lys Lys Leu Tyr Tyr Ser Asn  
595 600 605  
Leu Gly Ser Ser Ile Gly Asn Ser Ile Ile Asp Ala Ile Ser Gln Tyr  
610 615 620  
Val Asn Gly Ala Thr Tyr Phe Asn Phe Ala Ser Tyr Val Gly Gln Gln  
625 630 635 640  
Pro Ala Val Gly Ala Gly Gly Ala Asn Ala Phe Pro Gly Ser Gln Glu  
645 650 655  
Ser Ala Gln Ala Lys Leu Asp Gln Glu Arg Lys Gln Ala Ala Leu Tyr  
660 665 670  
Leu Gln Glu Thr Arg Gly Ala Leu Thr Val Ile Glu Glu Gln Arg Ala  
675 680 685  
Arg Val Leu Lys Asp Asp Lys Ile Thr Asn Glu Gln Arg Ser Thr Ile  
690 695 700  
Leu Asp Ser Leu Arg Asn Tyr Glu Asp Asn Ile Asn Ser Ile Ser Gly  
705 710 715 720  
Ser Leu Val Leu Leu Gln Asn Tyr Leu Gln Pro Leu Ser Ile Ala Gly  
725 730 735  
Gly Ser Val Ala Gly Thr Phe Glu Val Lys Glu Gly Gln Glu Gln Trp  
740 745 750  
Gln Ala Arg Leu Gln Ile Leu Glu Glu Ala Leu Val Ser Gly Leu Val  
755 760 765

Gly Asn Met Ile Asn Gly Gly Met Phe Pro Leu Gln Ser Thr Ile Gln  
 770 775 780  
 Ser Asp Gln Gln Ser Phe Ala Asp Met Gly Gln Asn Phe Gln Leu Asp  
 785 790 795 800  
 Leu Gln Met His Leu Thr Ser Met Gln Gln Glu Trp Thr Val Val Ala  
 805 810 815  
 Thr Ser Leu Gln Leu Leu Asn Gln Met Tyr Leu Ser Leu Ala Arg Ser  
 820 825 830  
 Leu Thr Gly  
 835

<210> 729  
 <211> 878  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 729  
 Lys Tyr Tyr Leu Phe Ser Met Ser Thr Phe Ser Ile Gln Asn Arg Leu  
 1 5 10 15  
 Arg Thr Ile Ser Gly Glu Ser Thr Arg Ile Ile Lys Leu Asp His Lys  
 20 25 30  
 Tyr Ser Gly Phe Asp Pro Arg Ser Val Pro Ala Ile Asn Leu Glu Glu  
 35 40 45  
 Leu Asn Ser Gly Ile Tyr Ala Leu Arg His Leu Met Asn Ala Leu Gln  
 50 55 60  
 Ser Glu Asn Thr Asn Val Ala Ala Leu Leu Asn Pro Asn Asn Thr Ile  
 65 70 75 80  
 Phe Pro Thr Thr Ser Trp Thr Asp Tyr Lys His Ser Arg Pro Gln Ala  
 85 90 95  
 Ser Ser Pro Arg Ala Pro Ser Ser Gln Thr Pro Thr Asp Ile Val Ser  
 100 105 110  
 Ala Ala Ala Leu Ala Leu Val Leu Val Ile Asp Gly Gly Leu Ala Glu  
 115 120 125  
 Leu Val Ala Ser Val Thr Glu Ile Asp Leu Gly Ala Leu Ser Thr Ile  
 130 135 140  
 Ser Thr Val Arg Gln Leu Met Ala Ser Tyr Leu Gly Leu Thr Thr Leu  
 145 150 155 160  
 Thr Ala Glu Gln Glu Lys Val Val Phe Ser Ser Ser Tyr Val Pro Ser  
 165 170 175  
 Glu Lys Asn Leu Leu Glu His Val Lys Gln Glu Lys Ala Ala Glu Ile  
 180 185 190  
 Gln Ala Lys Gln Glu Glu Ile Lys Ala Val Leu Glu Ala Lys Gly Val  
 195 200 205  
 Ser Thr Glu Glu Ile Glu Ala Ile Leu Lys Glu Tyr Pro Asp Ile Tyr  
 210 215 220  
 Ala Ala Asp Phe Phe Lys Glu Phe Ile Glu Glu Pro Leu His Thr Tyr  
 225 230 235 240  
 Arg Ala Lys Val Gly Ala Pro Ile Gln Glu Met Asn Glu Asn Ala Ile  
 245 250 255  
 Gln Leu Leu Pro Thr Pro Pro Ala Ile Thr Pro Asp Asn Val Asn Glu  
 260 265 270  
 Val Asn Gly Met Asn Thr Leu Ser Thr Ile Leu Gln Ala Ile Asp Asp  
 275 280 285  
 Ala Ile Lys Gln Ala Pro Ala Leu Gly Gly Asp Gln Glu Ile Ile Thr  
 290 295 300  
 Ile Leu Gln Thr Leu Val Pro Leu Val Asp Lys Thr Thr Phe Thr Lys  
 305 310 315 320  
 Ala Glu Phe Asp Leu Ile Tyr Thr Ala Thr Gln Leu Pro Asn Thr Ala  
 325 330 335  
 Ser Leu Lys Leu Tyr Leu Thr Asp Arg Gln Ile Ala Glu Tyr Arg Gly  
 340 345 350

Lys Ile Thr Lys Val Tyr Gln Asn Ser Ile Gln Asn Leu Ser Glu Thr  
 355 360 365  
 Lys Arg Val Val Glu Asn Asn Arg Ser Met Leu Glu Thr Gln Leu Ser  
 370 375 380  
 Met Phe Gln Gln Ala Gln Asn Cys Phe Val Thr Trp Ile Ser Gln Ala  
 385 390 395 400  
 Asn Ala Leu Asn Ile Ala Ile Thr Asn Lys Tyr Ile Ser Ala Val Leu  
 405 410 415  
 Thr Thr Ser Met Glu Met Tyr Gly Gly Leu Leu Cys Leu Ser Tyr Met  
 420 425 430  
 Tyr Glu Arg Leu Ala Asp Asp Glu Lys Ala Ile Phe Asp Lys Ser Val  
 435 440 445  
 Asn Glu Tyr Leu Pro Ile His Ile Val Val Gly Gly Ser Trp Val Asn  
 450 455 460  
 Gly Trp Ile Ala Lys Met Ala Ala Tyr Gln Glu Leu Ala Glu Tyr Ser  
 465 470 475 480  
 Leu Gly Thr Ala Val Thr Ser Gln Asp Gln Ile Lys Ala Tyr Leu Gln  
 485 490 495  
 Thr Arg Gly Asn Glu Phe Lys Ala Thr Arg His Phe Phe His Asn Ile  
 500 505 510  
 Gly Asp Gln Met Tyr Gln Phe Ala Asn Glu Thr Val Phe Gly Asn Cys  
 515 520 525  
 Leu Thr Thr Ala Asn Gly Ala Ile Gln Pro Asp Leu Gly Gly Phe Ile  
 530 535 540  
 Arg Glu Ala Met Thr Asn Val Gly Thr Val Glu Ala Asp Tyr Val Ser  
 545 550 555 560  
 Asn Ala Gln Arg Ile Leu Asn Glu Phe Asn Thr Ala Ala Thr Ala His  
 565 570 575  
 Val Leu Gln Leu Gln Leu Gln Ile Ala Glu Leu Gln Lys Lys Ala Asp  
 580 585 590  
 Asp Leu Asp Pro Gly Lys Ala Ser Phe Thr Glu Asn Arg Lys Phe Ala  
 595 600 605  
 Val Ala Ala Trp Ile Thr Ser Glu Ser Leu Gly Asp Ala Leu Ile Ser  
 610 615 620  
 Met Ile Leu Asn Ser Gln Leu Pro Lys Gln Glu Ala Phe Leu Lys Pro  
 625 630 635 640  
 Leu Ile Glu Glu Ile Asn Phe Asn Asn Leu Ala Ala Asn Ala Leu Asn  
 645 650 655  
 Ser Leu Leu Gln Ile Thr Asn Glu Phe Ser Thr Thr Ser Val Tyr Tyr  
 660 665 670  
 Ser Leu Ser Ser Tyr Leu Val Gln Ser Lys Thr Gly Gln Asn Leu Phe  
 675 680 685  
 Ala Gly Asp Tyr Tyr Glu Thr Leu Leu Ala Ala Ala Arg Glu Arg Glu  
 690 695 700  
 Tyr Ile Tyr Arg Asp Thr Ala Arg Cys Lys Gln Ala Ile Asn Leu Val  
 705 710 715 720  
 Asn Gly Leu Leu Gln Lys Ile Asn Ser Leu Pro Gly Ala Thr Ser Ala  
 725 730 735  
 Gln Lys Gln Glu Met Leu Asn Ala Thr Thr Tyr Tyr Gln Tyr Ser Leu  
 740 745 750  
 Ser Val Thr Leu Asn Gln Leu Thr Val Leu Glu Ser Leu Leu Ala Gly  
 755 760 765  
 Leu Lys Met Thr Leu Gln Thr Thr Ser Asn Asn Lys Tyr Asp Lys Ser  
 770 775 780  
 Val Phe Lys Ile Glu Ser Phe Asp Asp Trp Ile Pro Thr Leu Ala Ala  
 785 790 795 800  
 Leu Glu Ser Phe Leu Thr Ser Gly Phe Pro Asn Ile Ser Ala Thr Gly  
 805 810 815  
 Gly Leu Gly Pro Leu Phe Thr Gln Val Gln Ser Asp Gln Gln Thr Tyr  
 820 825 830

Thr Ser Gln Gly Gln Thr Gln Gln Leu Asn Leu Gln Asn Gln Met Thr  
           835                          840                          845  
 Thr Ile Gln Gln Glu Trp Thr Leu Val Ser Thr Ser Met Gln Val Leu  
           850                          855                          860  
 Asn Gly Ile Leu Ser Gln Leu Ala Gly Ala Ile Tyr Ser Asn  
 865                          870                          875

<210> 730  
 <211> 653  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 730  
 Val Phe Met Val Asn Pro Ile Gly Pro Gly Pro Ile Asp Glu Thr Glu  
 1                  5                          10                          15  
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 20                          25                          30  
 Ala Asn Lys Ser Ala Glu Ala Gln Arg Ile Ala Gly Ala Glu Ala Lys  
           35                          40                          45  
 Pro Lys Glu Ser Lys Thr Asp Ser Val Glu Arg Trp Ser Ile Leu Arg  
           50                          55                          60  
 Ser Ala Val Asn Ala Leu Met Ser Leu Ala Asp Lys Leu Gly Ile Ala  
 65                          70                          75                          80  
 Ser Ser Asn Ser Ser Ser Ser Thr Ser Arg Ser Ala Asp Val Asp Ser  
                           85                          90                          95  
 Thr Thr Ala Thr Ala Pro Thr Pro Pro Pro Pro Thr Phe Asp Asp Tyr  
                           100                          105                          110  
 Lys Thr Gln Ala Gln Thr Ala Tyr Asp Thr Ile Phe Thr Ser Thr Ser  
           115                          120                          125  
 Leu Ala Asp Ile Gln Ala Ala Leu Val Ser Leu Gln Asp Ala Val Thr  
           130                          135                          140  
 Asn Ile Lys Asp Thr Ala Ala Thr Asp Glu Glu Thr Ala Ile Ala Ala  
 145                          150                          155                          160  
 Glu Trp Glu Thr Lys Asn Ala Asp Ala Val Lys Val Gly Ala Gln Ile  
                           165                          170                          175  
 Thr Glu Leu Ala Lys Tyr Ala Ser Asp Asn Gln Ala Ile Leu Asp Ser  
           180                          185                          190  
 Leu Gly Lys Leu Thr Ser Phe Asp Leu Leu Gln Ala Ala Leu Leu Gln  
           195                          200                          205  
 Ser Val Ala Asn Asn Asn Lys Ala Ala Glu Leu Leu Lys Glu Met Gln  
           210                          215                          220  
 Asp Asn Pro Val Val Pro Gly Lys Thr Pro Ala Ile Ala Gln Ser Leu  
 225                          230                          235                          240  
 Val Asp Gln Thr Asp Ala Thr Ala Thr Gln Ile Glu Lys Asp Gly Asn  
                           245                          250                          255  
 Ala Ile Arg Asp Ala Tyr Phe Ala Gly Gln Asn Ala Ser Gly Ala Val  
           260                          265                          270  
 Glu Asn Ala Lys Ser Asn Asn Ser Ile Ser Asn Ile Asp Ser Ala Lys  
           275                          280                          285  
 Ala Ala Ile Ala Thr Ala Lys Thr Gln Ile Ala Glu Ala Gln Lys Lys  
           290                          295                          300  
 Phe Pro Asp Ser Pro Ile Leu Gln Glu Ala Glu Gln Met Val Ile Gln  
 305                          310                          315                          320  
 Ala Glu Lys Asp Leu Lys Asn Ile Lys Pro Ala Asp Gly Ser Asp Val  
                           325                          330                          335  
 Pro Asn Pro Gly Thr Thr Val Gly Gly Ser Lys Gln Gln Gly Ser Ser  
           340                          345                          350  
 Ile Gly Ser Ile Arg Val Ser Met Leu Leu Asp Asp Ala Glu Asn Glu  
           355                          360                          365  
 Thr Ala Ser Ile Leu Met Ser Gly Phe Arg Gln Met Ile His Met Phe  
 370                          375                          380

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Asn Thr Glu Asn Pro Asp Ser Gln Ala Ala Gln Gln Glu Leu Ala Ala
385                               390                               395                               400
Gln Ala Arg Ala Ala Lys Ala Ala Gly Asp Asp Ser Ala Ala Ala Ala
                               405                               410                               415
Leu Ala Asp Ala Gln Lys Ala Leu Glu Ala Ala Leu Gly Lys Ala Gly
                               420                               425                               430
Gln Gln Gln Gly Ile Leu Asn Ala Leu Gly Gln Ile Ala Ser Ala Ala
                               435                               440                               445
Val Val Ser Ala Gly Val Pro Pro Ala Ala Ala Ser Ser Ile Gly Ser
                               450                               455                               460
Ser Val Lys Gln Leu Tyr Lys Thr Ser Lys Ser Thr Gly Ser Asp Tyr
465                               470                               475                               480
Lys Thr Gln Ile Ser Ala Gly Tyr Asp Ala Tyr Lys Ser Ile Asn Asp
                               485                               490                               495
Ala Tyr Gly Arg Ala Arg Asn Asp Ala Thr Arg Asp Val Ile Asn Asn
                               500                               505                               510
- - - - - Val Ser Thr Pro Ala Leu Thr Arg Ser Val Pro Arg Ala Arg Thr Glu
                               515                               520                               525
Ala Arg Gly Pro Glu Lys Thr Asp Gln Ala Leu Ala Arg Val Ile Ser
                               530                               535                               540
Gly Asn Ser Arg Thr Leu Gly Asp Val Tyr Ser Gln Val Ser Ala Leu
545                               550                               555                               560
Gln Ser Val Met Gln Ile Ile Gln Ser Asn Pro Gln Ala Asn Asn Glu
                               565                               570                               575
Glu Ile Arg Gln Lys Leu Thr Ser Ala Val Thr Lys Pro Pro Gln Phe
                               580                               585                               590
Gly Tyr Pro Tyr Val Gln Leu Ser Asn Asp Ser Thr Gln Lys Phe Ile
                               595                               600                               605
Ala Lys Leu Glu Ser Leu Phe Ala Glu Gly Ser Arg Thr Ala Ala Glu
610                               615                               620
Ile Lys Ala Leu Ser Phe Glu Thr Asn Ser Leu Phe Ile Gln Gln Val
625                               630                               635                               640
Leu Val Asn Ile Gly Ser Leu Tyr Ser Gly Tyr Leu Gln
                               645                               650

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<210> 731  
 <211> 438  
 <212> PRT  
 <213> Chlamydia pneumoniae

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<400> 731
Pro Ala Trp Ser Ser Val Ser Thr Leu Asn Ile Asp Thr Lys Asp Thr
1                               5                               10                               15
Met Lys Lys Gln Val Tyr Gln Trp Leu Ala Ser Val Val Leu Leu Ala
                               20                               25                               30
Leu Thr Ile Ser Gly Tyr Ala Glu Leu Pro Leu Ser Glu Gln Lys Val
                               35                               40                               45
Lys Ser His Thr Tyr Thr Thr Leu Asp Glu Val Lys Asp Tyr Leu Ser
                               50                               55                               60
Lys Arg Gly Phe Val Glu Thr Arg Lys Gln Asp Gly Val Leu Arg Ile
65                               70                               75                               80
Ala Gly Asp Val Arg Ala Arg Trp Leu Tyr Phe Arg Glu Asp Ile Lys
                               85                               90                               95
Asn Pro Ser Asp Lys Asp Lys Tyr Asn Pro Leu Pro Val Asn Arg Tyr
                               100                               105                               110
Arg Ser Glu Phe Tyr Leu Tyr Ile Asp Tyr Arg Ala Glu Arg Asn Trp
                               115                               120                               125
Leu Ser Ser Lys Met Asn Trp Thr Ala Ile Ala Gly Gly Glu Asn Thr
130                               135                               140
Ala Ala Gly Val Asp Ile Asn Arg Ala Phe Leu Gly Tyr Arg Phe Tyr
145                               150                               155                               160

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Lys Asn Pro Glu Thr Arg Thr Asp Phe Phe Met Glu Ile Gly Arg Ser  
 165 170 175  
 Gly Leu Gly Asp Leu Phe Glu Ser Glu Val Gln Phe Gln Ser Asn Phe  
 180 185 190  
 Asp Gly Leu His Ile Tyr Trp Thr Arg Glu Leu Ser Lys Asp Tyr Pro  
 195 200 205  
 Tyr Gln Val Ile Val His Gly Gly Pro Phe Val Val Asn Met Thr Lys  
 210 215 220  
 Lys His Tyr Ala Trp Val Val Glu Gly Ile Leu Asn Arg Leu Pro Lys  
 225 230 235 240  
 Gln Phe Phe Val Lys Cys Ser Val Val Asp Trp Asn Thr Phe Val Pro  
 245 250 255  
 Ser Glu Thr Ser Thr Thr Glu Lys Ala Ala Thr Asn Ala Met Lys Tyr  
 260 265 270  
 Lys Tyr Cys Val Trp Gln Trp Leu Val Gly Lys His Ser Gln Val Pro  
 275 280 285  
 Trp Ile Asn Gly Gln Lys Lys Pro Leu Tyr Leu Tyr Gly Ala Phe Leu  
 290 295 300  
 Met Asn Pro Leu Ala Lys Ala Thr Lys Thr Thr Leu Asn Gly Lys Glu  
 305 310 315 320  
 Asn Leu Ala Trp Phe Ile Gly Gly Thr Leu Gly Gly Leu Arg Lys Ala  
 325 330 335  
 Gly Asp Trp Ser Ala Thr Val Arg Tyr Glu Tyr Val Glu Ala Leu Ser  
 340 345 350  
 Val Pro Glu Ile Asp Val Ser Gly Ile Gly Arg Gly Asn Leu Leu Lys  
 355 360 365  
 Phe Trp Phe Ala Gln Ala Ile Ala Ala Asn Tyr Asp Pro Lys Glu Ala  
 370 375 380  
 Asn Gly Phe Thr Asn Tyr Lys Gly Phe Ser Ala Leu Tyr Met Tyr Gly  
 385 390 395 400  
 Ile Thr Asp Ser Leu Ser Phe Arg Ala Tyr Gly Ala Tyr Ser Lys Pro  
 405 410 415  
 Ala Asn Asp Lys Leu Gly Ser Asp Phe Thr Phe Arg Lys Phe Asp Leu  
 420 425 430  
 Gly Ile Ile Ser Ala Phe  
 435

<210> 732  
 <211> 558  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 732  
 Ser Cys Phe Lys Gly Gly Gly Glu Asn Gly Leu Met Ser Arg Lys Asp  
 1 5 10 15  
 Asn Glu Val Ser Leu Ala Arg Ser Ile Phe Asn Ile Leu Ser Gly Thr  
 20 25 30  
 Phe Cys Ser Arg Ile Thr Gly Ile Phe Arg Glu Ile Ala Met Ala Thr  
 35 40 45  
 Tyr Phe Gly Ala Asp Pro Ile Val Ala Ala Phe Trp Leu Gly Phe Arg  
 50 55 60  
 Thr Val Phe Phe Leu Arg Lys Ile Leu Gly Gly Leu Ile Leu Glu Gln  
 65 70 75 80  
 Ala Phe Ile Pro His Phe Glu Phe Leu Arg Ala Gln Ser Leu Asp Arg  
 85 90 95  
 Ala Ala Phe Phe Phe Arg Arg Phe Ser Arg Leu Ile Lys Gly Ser Thr  
 100 105 110  
 Ile Ile Phe Thr Leu Leu Ile Glu Ala Val Leu Trp Val Val Leu Gln  
 115 120 125  
 Tyr Val Glu Glu Gly Thr Tyr Asp Met Ile Leu Leu Thr Met Ile Leu  
 130 135 140

Leu Pro Cys Gly Ile Phe Leu Met Met Tyr Asn Val Asn Gly Ala Leu  
 145 150 155 160  
 Leu His Cys Glu Asn Lys Phe Phe Gly Val Gly Leu Ala Pro Val Val  
 165 170 175  
 Val Asn Ile Ile Trp Ile Phe Phe Val Ile Ala Ala Arg His Ser Asp  
 180 185 190  
 Pro Arg Glu Arg Ile Ile Gly Leu Ser Val Ala Leu Val Ile Gly Phe  
 195 200 205  
 Phe Phe Glu Trp Leu Ile Thr Val Pro Gly Val Trp Lys Phe Leu Leu  
 210 215 220  
 Glu Ala Lys Ser Pro Pro Gln Glu His Asp Ser Val Arg Ala Leu Leu  
 225 230 235 240  
 Ala Pro Leu Ser Leu Gly Ile Leu Thr Ser Ser Ile Phe Gln Leu Asn  
 245 250 255  
 Leu Leu Ser Asp Ile Cys Leu Ala Arg Tyr Val His Glu Ile Gly Pro  
 260 265 270  
 Leu Tyr Leu Met Tyr Ser Leu Lys Ile Tyr Gln Leu Pro Ile His Leu  
 275 280 285  
 Phe Gly Phe Gly Val Phe Thr Val Leu Leu Pro Ala Ile Ser Arg Cys  
 290 295 300  
 Val Gln Arg Glu Asp His Glu Arg Gly Leu Lys Leu Met Lys Phe Val  
 305 310 315 320  
 Leu Thr Leu Thr Met Ser Val Met Ile Ile Met Thr Ala Gly Leu Leu  
 325 330 335  
 Leu Leu Ala Leu Pro Gly Val Arg Val Leu Tyr Glu His Gly Leu Phe  
 340 345 350  
 Pro Gln Ser Ala Val Tyr Ala Ile Val Arg Val Leu Arg Gly Tyr Gly  
 355 360 365  
 Ala Ser Ile Ile Pro Met Ala Leu Ala Pro Leu Val Ser Val Leu Phe  
 370 375 380  
 Tyr Ala Gln Arg Gln Tyr Ala Val Pro Leu Phe Ile Gly Ile Gly Thr  
 385 390 395 400  
 Ala Leu Ala Asn Ile Val Leu Ser Leu Val Leu Gly Arg Trp Val Leu  
 405 410 415  
 Lys Asp Val Ser Gly Ile Ser Tyr Ala Thr Ser Ile Thr Ala Trp Val  
 420 425 430  
 Gln Leu Tyr Phe Leu Trp Tyr Tyr Ser Ser Lys Arg Leu Pro Met Tyr  
 435 440 445  
 Ser Lys Leu Leu Trp Glu Ser Ile Arg Arg Ser Ile Lys Val Met Gly  
 450 455 460  
 Thr Thr Met Leu Ala Cys Met Ile Thr Leu Gly Leu Asn Ile Leu Thr  
 465 470 475 480  
 Gln Thr Thr Tyr Val Ile Phe Leu Asn Pro Leu Thr Pro Leu Ala Trp  
 485 490 495  
 Pro Leu Ser Ser Ile Thr Ala Gln Ala Ile Ala Phe Leu Ser Glu Ser  
 500 505 510  
 Cys Ile Phe Leu Ala Phe Leu Phe Gly Phe Ala Lys Leu Leu Arg Val  
 515 520 525  
 Glu Asp Leu Ile Asn Leu Ala Ser Phe Glu Tyr Trp Arg Gly Gln Arg  
 530 535 540  
 Gly Leu Leu Gln Arg Gln His Val Met Gln Asp Thr Gln Asn  
 545 550 555

<210> 733

<211> 90

<212> PRT

<213> Chlamydia pneumoniae

<400> 733

Val Ala Ile Ala Ile Ser Arg Asn Ile Pro Val Ile Arg Leu Gln Lys  
 1 5 10 15



Val Pro Asp Asn Ile Leu Lys Ile Glu Arg Ala Lys Glu Thr Ser Leu  
20 25 30  
Met Ser Phe Leu Leu Ile Lys Pro Phe Ser Pro Pro Pro Leu Lys Gln  
35 40 45  
Asp Tyr Leu Phe Asp Ile Ser Pro Tyr Thr Ser Ser Glu Ile Thr Ile  
50 55 60  
Gly Gly Ser Tyr Phe Lys Leu Asn Lys Ala Ser Leu Gln Ser Ser Thr  
65 70 75 80  
Leu Arg Leu Arg Ser Ile Ser Ile Ile Ser  
85 90

<210> 734

<211> 295

<212> PRT

<213> Chlamydia pneumoniae

<400> 734

Asn Phe Met Lys Val Leu Pro Pro Pro Ser Ile Pro Leu Leu Gly Ala  
1 5 10 15  
His Thr Ser Thr Ala Gly Gly Leu Lys Asn Ala Ile Tyr Glu Gly Arg  
20 25 30  
Asp Ile Gly Ala Ser Thr Val Gln Ile Phe Thr Ala Asn Gln Arg Gln  
35 40 45  
Trp Gln Arg Arg Ala Leu Lys Glu Glu Val Ile Glu Asp Phe Lys Ala  
50 55 60  
Ala Leu Lys Glu Thr Asp Leu Ser Tyr Ile Met Ser His Ala Gly Tyr  
65 70 75 80  
Leu Ile Asn Pro Gly Ala Pro Asp Pro Val Ile Leu Glu Lys Ser Arg  
85 90 95  
Ile Gly Ile Tyr Gln Glu Ile Leu Asp Cys Ile Thr Leu Gly Ile Ser  
100 105 110  
Phe Val Asn Phe His Pro Gly Ala Ala Leu Lys Ser Ser Lys Glu Asp  
115 120 125  
Cys Met Asn Lys Ile Val Ser Ser Phe Ser Gln Ser Ala Pro Leu Phe  
130 135 140  
Asp Ser Ser Pro Pro Leu Val Val Leu Leu Glu Thr Thr Ala Gly Gln  
145 150 155 160  
Gly Thr Leu Ile Gly Ser Asn Phe Glu Glu Leu Gly Tyr Leu Val Gln  
165 170 175  
Asn Leu Lys Asn Gln Ile Pro Ile Gly Val Cys Val Asp Thr Cys His  
180 185 190  
Ile Phe Ala Ala Gly Tyr Asp Ile Thr Ser Pro Gln Gly Trp Glu Asp  
195 200 205  
Val Leu Asn Glu Phe Asp Glu Tyr Val Gly Leu Ser Tyr Leu Arg Ala  
210 215 220  
Phe His Leu Asn Asp Ser Met Phe Pro Leu Gly Ala Asn Lys Asp Arg  
225 230 235 240  
His Ala Pro Leu Gly Glu Gly Tyr Ile Gly Lys Glu Ser Phe Lys Phe  
245 250 255  
Leu Met Thr Asp Glu Arg Thr Arg Lys Ile Pro Lys Tyr Leu Glu Thr  
260 265 270  
Pro Gly Gly Pro Glu Asn Trp Gln Lys Glu Ile Gly Glu Leu Leu Lys  
275 280 285  
Phe Ser Lys Asn Arg Asp Ser  
290 295

<210> 735

<211> 213

<212> PRT

<213> Chlamydia pneumoniae



Glu Cys Asp Pro Glu Thr Thr Pro Val Met Met Tyr Cys Thr Gly Gly  
 195 200 205  
 Ile Arg Cys Glu Leu Tyr Ser Pro Val Leu Leu Glu Lys Gly Phe Lys  
 210 215 220  
 Glu Val Tyr Gln Leu Asp Gly Gly Val Ile Ala Tyr Gly Gln Gln Val  
 225 230 235 240  
 Gly Thr Gly Lys Trp Leu Gly Lys Leu Phe Val Phe Asp Asp Arg Leu  
 245 250 255  
 Ala Ile Pro Ile Asp Glu Ser Asp Pro Asp Val Ala Pro Ile Ala Glu  
 260 265 270  
 Cys Cys His Cys Gln Thr Pro Ser Asp Ala Tyr Tyr Asn Cys Ala Asn  
 275 280 285  
 Thr Asp Cys Asn Ala Leu Phe Leu Cys Cys Asp Glu Cys Ile His Gln  
 290 295 300  
 His Gln Gly Cys Cys Gly Glu Glu Cys Ser Gln Ser Pro Arg Val Arg  
 305 310 315 320  
 Lys Phe Asp Ser Ser Arg Gly Asn Lys Pro Phe Arg Arg Ala His Leu  
 325 330 335  
 Cys Glu Ile Ser Glu Asn Ser Glu Ser Ala Ser Cys Cys Leu Ile  
 340 345 350

<210> 737

<211> 226

<212> PRT

<213> Chlamydia pneumoniae

<400> 737

Gly Glu Lys Phe Met Leu Met Met Leu Met Met Ile Ile Gly Ile Thr  
 1 5 10 15  
 Gly Gly Ser Gly Ala Gly Lys Thr Thr Leu Thr Gln Asn Ile Lys Glu  
 20 25 30  
 Ile Phe Gly Glu Asp Val Ser Val Ile Cys Gln Asp Asn Tyr Tyr Lys  
 35 40 45  
 Asp Arg Ser His Tyr Thr Pro Glu Glu Arg Ala Asn Leu Ile Trp Asp  
 50 55 60  
 His Pro Asp Ala Phe Asp Asn Asp Leu Leu Ile Ser Asp Ile Lys Arg  
 65 70 75 80  
 Leu Lys Asn Asn Glu Ile Val Gln Ala Pro Val Phe Asp Phe Val Leu  
 85 90 95  
 Gly Asn Arg Ser Lys Thr Glu Ile Glu Thr Ile Tyr Pro Ser Lys Val  
 100 105 110  
 Ile Leu Val Glu Gly Ile Leu Val Phe Glu Asn Gln Glu Leu Arg Asp  
 115 120 125  
 Leu Met Asp Ile Arg Ile Phe Val Asp Thr Asp Ala Asp Glu Arg Ile  
 130 135 140  
 Leu Arg Arg Met Val Arg Asp Val Gln Glu Gln Gly Asp Ser Val Asp  
 145 150 155 160  
 Cys Ile Met Ser Arg Tyr Leu Ser Met Val Lys Pro Met His Glu Lys  
 165 170 175  
 Phe Ile Glu Pro Thr Arg Lys Tyr Ala Asp Ile Ile Val His Gly Asn  
 180 185 190  
 Tyr Arg Gln Asn Val Val Thr Asn Ile Leu Ser Gln Lys Ile Lys Asn  
 195 200 205  
 His Leu Glu Asn Ala Leu Glu Ser Asp Glu Thr Tyr Tyr Met Val Asn  
 210 215 220  
 Ser Lys  
 225

<210> 738  
 <211> 580  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 738  
 Arg Gly Glu Leu Leu Lys Leu Ala Arg Gln Cys Leu Val Ala Phe Met  
 1 5 10 15  
 Thr Val Ser Val Lys Lys Lys Ser Phe Arg Ala Leu Val Thr Thr His  
 20 25 30  
 Phe Leu Thr Ile Ile Asn Asp Asn Leu Tyr Lys Phe Leu Leu Ala Phe  
 35 40 45  
 Phe Leu Leu Glu Gly Lys Thr Leu Thr Glu Asn Ala Lys Ile Leu Ser  
 50 55 60  
 Cys Val Ser Phe Phe Phe Ala Leu Pro Phe Leu Leu Leu Ala Pro Leu  
 65 70 75 80  
 Ala Gly Ser Leu Ala Asp Arg Phe Gln Lys Arg Asn Ile Ile Leu Ala  
 85 90 95  
 Thr Arg Phe Ile Glu Ile Leu Cys Thr Ile Leu Gly Thr Tyr Phe Phe  
 100 105 110  
 Phe Ile Gln Ser Val Val Gly Gly Tyr Val Val Leu Ile Leu Met Ala  
 115 120 125  
 Cys His Thr Thr Ile Phe Gly Pro Ala Lys Leu Gly Ile Leu Pro Glu  
 130 135 140  
 Met Leu Pro Ser Glu Gln Leu Ser Gln Ala Asn Gly Ile Met Thr Ala  
 145 150 155 160  
 Ala Thr Tyr Thr Gly Ser Ile Leu Gly Ser Cys Leu Ala Pro Leu Leu  
 165 170 175  
 Val Asp Val Thr His Arg Leu Gly Val Asn Ser Tyr Val Trp Pro Thr  
 180 185 190  
 Leu Met Cys Val Ile Val Ser Ile Ile Ser Thr Leu Ile Ser Phe Cys  
 195 200 205  
 Ile Arg Pro Ser Asn Val Lys Asn Val Lys Gln Lys Ile Thr Leu Val  
 210 215 220  
 Ser Phe Lys Asp Leu Trp Lys Val Leu Lys Asp Thr Arg Met Ile His  
 225 230 235 240  
 Tyr Leu Thr Val Ser Ile Phe Leu Gly Ser Phe Phe Leu Leu Ile Gly  
 245 250 255  
 Ala Tyr Thr Gln Leu Glu Ile Ile Pro Phe Val Glu Phe Thr Leu Lys  
 260 265 270  
 Tyr Pro Lys His Tyr Gly Ala Tyr Leu Phe Pro Ile Val Ala Leu Gly  
 275 280 285  
 Val Gly Thr Gly Ser Tyr Ile Thr Gly Lys Ile Ser Gly Lys Asp Ile  
 290 295 300  
 Lys Ile Gly Tyr Val Pro Leu Ala Ala Ile Gly Leu Ala Leu Val Phe  
 305 310 315 320  
 Met Gly Leu Tyr Ala Phe Ala Cys Ser Ile Leu Phe Val Leu Phe Phe  
 325 330 335  
 Leu Leu Ala Leu Gly Phe Leu Gly Gly Val Tyr Gln Val Pro Leu His  
 340 345 350  
 Ala Tyr Val Gln Tyr Ala Ser Pro Glu His Lys Arg Gly Gln Ile Leu  
 355 360 365  
 Ala Ala Asn Asn Phe Leu Asp Phe Phe Gly Val Leu Val Ala Ala Gly  
 370 375 380  
 Val Ile Arg Val Leu Gly Ser Asn Leu Gly Leu Ser Pro Glu Thr Ser  
 385 390 395 400  
 Phe Phe Tyr Ile Gly Trp Phe Val Leu Ala Val Ser Ile Trp Thr Leu  
 405 410 415  
 Trp Ile Trp Arg Glu His Val Tyr Arg Leu Leu Leu Gly Ile Ile Leu  
 420 425 430

Arg Arg Gln Leu Gly Tyr Tyr Leu Lys Ile His Gln Ser Ser Ser Pro  
 435 440 445  
 Lys Cys Tyr Phe Val Ala Val Gln Ser Tyr Arg Glu Ile Arg Arg Val  
 450 455 460  
 Leu Ala Ala Leu Thr Lys Thr Val Arg Ser Arg Val Ile Ile Leu Asp  
 465 470 475 480  
 Gln Lys Leu Val Pro Gly Trp Arg Ala Trp Leu Leu Ser Trp Cys Val  
 485 490 495  
 Pro Thr Val Val Ser Ser Val Arg Asp Asn Asp Ser Glu Ala Gln Asp  
 500 505 510  
 Ala Trp Ala Val Leu Gln Ala Asn His Leu Lys Thr Ser Leu Lys Lys  
 515 520 525  
 Phe Pro Asp Val Ser Val Val Cys Leu Gly Leu Pro Lys Asn Val Glu  
 530 535 540  
 Arg Phe Thr Ser Ile Leu Gln Glu Gln Gly Ile Asp Leu His Pro Ile  
 545 550 555 560  
 Gln Leu Val Gln Lys Glu Gly Lys Lys Arg Val Ile Tyr Thr Leu Val  
 565 570 575  
 Phe Pro His Ala  
 580

<210> 739

<211> 1096

<212> PRT

<213> Chlamydia pneumoniae

<400> 739

Lys Arg Ser Ala Lys Leu Pro Ala Ser Gly Ala Ser Lys Arg Lys Gly  
 1 5 10 15  
 Arg Ala Lys Lys Lys Leu Thr Gln Glu Arg Ile Phe Ala Phe Ser Val  
 20 25 30  
 Arg Val Leu Pro Ser Asn Arg Lys Asn Ala Lys Arg Asn Leu Tyr Lys  
 35 40 45  
 Leu Ser Phe Ile Ile Val Arg Lys Cys Val Val Thr Ser Ala Leu Asn  
 50 55 60  
 Asp Phe Phe Leu Thr Glu Thr Val Met Asn Ala Thr Lys His Cys Arg  
 65 70 75 80  
 Ala Ser Phe Ser Asn Ser Pro Arg His Leu Leu Ala Gln Leu Ala Glu  
 85 90 95  
 Asp Ile Thr Ser Thr His Gln Lys Pro Phe Thr Lys Arg Trp Ile Leu  
 100 105 110  
 Val Ala Asn Ala Thr Thr Gly His Trp Ile Lys Asn Gln Leu Val His  
 115 120 125  
 Val Leu Ser Asp His Ile Phe Met Gly Ser Thr Ile Phe Thr Ala Ser  
 130 135 140  
 Asp Ser Ile Val Lys His Leu Phe Leu Gly Ser Gly Cys Ser Gln Pro  
 145 150 155 160  
 Asn Ile Pro Asp Tyr Leu Thr Leu Pro Leu Leu Ile Asn Asn Ile Leu  
 165 170 175  
 Glu Glu Ile Ser Lys Ala Ser Lys Phe Glu Asn Gly Arg Glu Phe Leu  
 180 185 190  
 Ser Pro Pro Thr Tyr Glu Thr Thr Lys Lys Leu Ala Ala Ala Phe Lys  
 195 200 205  
 Gln Phe His Thr Phe Ser Gln Arg Pro Thr Lys Asn Ala Ser His Tyr  
 210 215 220  
 Gln Glu Leu Phe Gln Ile Leu Glu Ser His Phe Ser Ser Tyr Glu Glu  
 225 230 235 240  
 Met Phe Thr Thr Ile Leu Asn Asn Arg Thr Gln Glu Glu Asp Cys Ser  
 245 250 255  
 Leu His Ile Phe Gly Tyr Ala His Leu Pro Lys His Leu Ala Glu Phe  
 260 265 270

Phe	Ile	Asn	Leu	Ser	Thr	Tyr	Phe	Pro	Val	Tyr	Phe	Tyr	Cys	Phe	Ser	275	280	285
Pro	Cys	Arg	Glu	Tyr	Phe	Gly	Asp	Leu	Leu	Ser	Asp	Arg	Ala	Ile	Asp	290	295	300
Phe	Phe	Trp	Asn	Gln	Leu	Pro	Asp	Ser	Pro	Ile	Lys	Asn	Ala	Trp	Glu	305	310	315
His	Tyr	Val	Leu	Ser	Asp	Arg	Gln	Ala	Leu	Leu	Ala	Asn	Leu	Ala	His	325	330	335
Lys	Ser	Gln	Ser	Ser	Gln	Asn	Phe	Phe	Leu	Asp	Arg	Glu	Ile	Asp	Tyr	340	345	350
Gln	Glu	Met	Phe	Leu	Pro	Ser	Lys	His	Asp	Ser	Ser	Leu	Gly	Val	Ile	355	360	365
Gln	Asn	Ser	Ile	Leu	Asp	Leu	Lys	Pro	Thr	Ser	Pro	Gln	Asp	Phe	Ser	370	375	380
Gln	Thr	Lys	Gln	Thr	Ile	Cys	Ile	Tyr	Arg	Ala	Leu	Asn	Ile	Pro	Arg	385	390	395
Glu	Val	Gln	Glu	Val	Phe	Cys	Lys	Val	Thr	Glu	Leu	Leu	His	Arg	Gly	405	410	415
Val	Ser	Pro	Glu	Glu	Ile	Phe	Ile	Leu	Ser	Ser	His	Ile	Glu	Ser	Tyr	420	425	430
Lys	Val	His	Leu	Asn	Ala	Ile	Phe	Asn	Pro	His	Val	Pro	Ile	Tyr	Phe	435	440	445
Thr	Asp	Glu	Val	Asp	Pro	Arg	Ala	Glu	Asp	Leu	Arg	Asn	Lys	Ile	Leu	450	455	460
Leu	Leu	Ser	Ser	Ile	Leu	Gln	Thr	Gln	Gly	Asp	Leu	His	Tyr	Ile	Leu	465	470	475
Gln	Leu	Leu	Thr	His	Pro	Gln	Leu	Gln	Gln	Pro	Ile	Asp	Gln	Asn	Lys	485	490	495
Val	Pro	Tyr	Leu	Ile	Lys	Lys	Leu	Ser	Ser	Glu	Trp	Gly	Lys	Ile	Ser	500	505	510
Ser	Lys	Asp	Arg	Ala	Ser	Gly	Gln	Gln	Met	Lys	Ala	Leu	Gly	Asp	Leu	515	520	525
Ile	Leu	Glu	Glu	Tyr	Pro	Phe	His	Gln	Glu	Gly	Gly	Arg	Val	Ser	Gln	530	535	540
Val	Glu	Val	Trp	Glu	Thr	Thr	Val	Pro	Leu	Ile	Tyr	Phe	Ile	Gln	Glu	545	550	555
Arg	Ile	Asn	Leu	Tyr	Leu	Ser	Ser	Ser	Gln	His	Ser	Tyr	Glu	Asp	Leu	565	570	575
Phe	Gln	Asn	Val	Phe	Ser	Cys	Leu	Glu	Lys	Ile	Phe	Val	Leu	Ser	Pro	580	585	590
Glu	Glu	Thr	Ser	Phe	Ile	Thr	Thr	Leu	Arg	Asn	Ser	Leu	Phe	Pro	Thr	595	600	605
Phe	Ala	Thr	Ser	Ser	Cys	Ser	Leu	Leu	Phe	Phe	Thr	Asp	Phe	Cys	Leu	610	615	620
Asp	Phe	Leu	Leu	His	Phe	His	Lys	Pro	Ser	Pro	Leu	Tyr	Asp	Lys	Pro	625	630	635
Gly	Pro	Tyr	Ile	Gly	Ser	Leu	Ser	Ser	Leu	Ser	Leu	Ile	Pro	Lys	Gly	645	650	655
Tyr	Val	Phe	Ile	Leu	Gly	Ala	Asn	Lys	Thr	Thr	Ser	Ser	Asp	Ile	Phe	660	665	670
Asp	Leu	Leu	Asn	Arg	Thr	Thr	Thr	His	Glu	Glu	Leu	Ala	Phe	Ser	Ser	675	680	685
Thr	Glu	Asp	Glu	Glu	Asn	Phe	His	Phe	Leu	Gln	Ile	Leu	Val	Ser	Thr	690	695	700
Lys	His	Glu	Leu	His	Ile	Ser	Tyr	Ile	Ser	Ser	Ala	Ala	Gln	Phe	Asn	705	710	715
Leu	Pro	Ser	Pro	Phe	Leu	Asn	His	Ile	Lys	Glu	Thr	Leu	Asp	Leu	Pro	725	730	735
Val	Glu	Thr	Leu	Pro	Thr	Gln	Pro	Tyr	Leu	Ser	Ala	Phe	Phe	Lys	Asn	740	745	750

Lys Ala Cys Leu His Thr Ser Gln Glu Tyr Asn Tyr Ser Leu Ala His  
 755 760 765  
 Ala Phe Tyr Ser Lys Lys Ala Leu Leu Pro Ser Leu Phe Ile Pro Thr  
 770 775 780  
 Val Lys Gln Val Asn Leu Pro Gln His Leu Ser Leu Asn Glu Ile Ile  
 785 790 795 800  
 Lys Gly Ile Phe Ser Pro Leu Asp Leu Phe Leu Lys Thr Asn Tyr Asn  
 805 810 815  
 Leu Arg Ile Ser Tyr Pro Glu His Leu Lys Lys Gln Gln Lys Leu Phe  
 820 825 830  
 Pro Thr Lys His Gln Ile Glu Asp Phe Trp Asn Glu Cys Phe Val Asp  
 835 840 845  
 Lys Glu His Asp Leu Ile Pro Ser Ile Ser Pro His Ala Glu Glu Leu  
 850 855 860  
 Phe Thr Tyr Tyr Arg Glu Lys Thr Ile Leu Leu Arg Asn Gly Leu Asp  
 865 870 875 880  
 Lys Asp Pro Lys His Ser Pro Tyr Thr Val Thr Phe Ser Ser Ser Ile  
 885 890 895  
 Phe Glu Glu Arg Pro Tyr His Glu Ser Tyr Leu Phe Pro Pro Leu Ser  
 900 905 910  
 Leu Ser Phe Gln Gly Asn Pro Val Gln Ile His Gly Thr Ile His Gly  
 915 920 925  
 Val Cys Asn Glu Gly Leu Tyr Leu Cys Ser Ile Asp Pro Arg Asp Ser  
 930 935 940  
 Leu Lys Lys Thr Thr Arg Thr Leu Gly Ser Leu Pro Glu Thr Ser Ser  
 945 950 955 960  
 Glu Gln Lys Gln Leu Leu Glu Arg Tyr Val Ala Leu Ala Val Leu Gln  
 965 970 975  
 Met Ser Gln His Leu Ser Ser Asp Ser Ala Leu Ile Lys Leu Thr Ser  
 980 985 990  
 Phe Asn Thr Lys Glu Asn His His Pro Pro Phe Ser Asp Pro Glu Gly  
 995 1000 1005  
 Tyr Leu Arg Lys Val Leu Glu Val Tyr His Leu Met Ser Ser Gln Pro  
 1010 1015 1020  
 Ile Pro Leu Leu Ser Pro Leu Cys Trp Lys Thr Leu Asp Asp Glu Glu  
 1025 1030 1035 1040  
 Lys Phe His Gln Ala Val Leu Ser Ala Ile Ser Glu Glu Ala Lys Asn  
 1045 1050 1055  
 Pro Ser Leu Pro Ile Phe Trp Gln Phe His Asn Arg Asn Ile Glu Glu  
 1060 1065 1070  
 Ile Leu Asn His Val Gly Ala Ser Glu Arg Leu Lys Ile Leu Ser Leu  
 1075 1080 1085  
 Phe Arg Gly Pro Cys Glu Ala Val  
 1090 1095

<210> 740  
 <211> 1060  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 740  
 Lys Phe Tyr Leu Phe Ser Glu Val Pro Val Met Lys Pro Phe Asn Ile  
 1 5 10 15  
 Phe Asp Ser Asn Ser Ser Ile Gln Gly Lys Phe Phe Leu Glu Ala Ser  
 20 25 30  
 Ala Gly Thr Gly Lys Thr Phe Thr Ile Glu Gln Ile Val Leu Arg Ala  
 35 40 45  
 Leu Ile Glu Gly Ser Leu Thr His Val Glu His Ala Leu Ala Ile Thr  
 50 55 60  
 Phe Thr Asn Ala Ser Thr Asn Glu Leu Lys Val Arg Ile Lys Asp Asn  
 65 70 75 80

Leu	Ala	Gln	Thr	Leu	Arg	Glu	Leu	Lys	Ala	Val	Leu	Asn	Ser	Gln	Pro
				85					90					95	
Ala	Ser	Leu	Pro	Thr	Tyr	Leu	Asp	Ile	Asn	Cys	Asn	Val	Lys	Gln	Ile
		100						105					110		
Tyr	Met	Gln	Val	Arg	Asn	Ala	Leu	Ala	Thr	Leu	Asp	Gln	Met	Ser	Leu
		115					120					125			
Phe	Thr	Ile	His	Gly	Phe	Cys	Asn	Phe	Val	Leu	Glu	Gln	Tyr	Phe	Pro
	130					135					140				
Lys	Thr	Arg	Leu	Ile	His	Lys	Asn	Pro	Ala	Leu	Thr	His	Ser	Gln	Leu
145					150					155					160
Val	Leu	His	His	Ile	Thr	Asn	Tyr	Leu	Lys	Gln	Asp	Leu	Trp	Lys	Asn
			165						170					175	
Val	Leu	Phe	Gln	Glu	Gln	Phe	His	Leu	Leu	Ala	Val	Arg	Tyr	Asn	Ile
			180					185					190		
Thr	Ser	Lys	His	Thr	Ser	Ser	Leu	Val	Asp	Lys	Leu	Leu	Ala	Ser	Tyr
		195					200					205			
Thr	Gln	Pro	Ile	Ser	Ser	Tyr	Phe	Ser	Ser	Arg	Val	Glu	Arg	Leu	Glu
	210					215					220				
Gln	Ile	Ser	Leu	Trp	His	Gln	Gln	Ile	Tyr	Asn	Ser	Leu	Leu	Glu	Ile
225					230					235				240	
Pro	Lys	Gln	Val	Phe	Leu	Asp	Gln	Leu	Thr	Ala	His	Ile	Ser	Gly	Phe
				245					250					255	
Lys	Lys	Gln	Pro	Phe	Ser	Ile	Leu	Asp	Asp	Leu	His	His	Phe	Val	Asp
		260					265						270		
Leu	Leu	Tyr	Thr	Ser	Glu	Thr	His	Ser	Ser	Leu	Phe	Ser	Phe	Phe	Lys
		275				280						285			
Ile	Ala	Glu	Thr	Phe	Asn	Phe	Lys	His	Arg	Leu	Ala	Arg	Tyr	Lys	Pro
	290					295					300				
Cys	Ala	Ala	Phe	Thr	Val	Leu	Glu	Asn	Met	Ser	Trp	Val	Glu	Arg	Thr
305					310					315				320	
Leu	Glu	Phe	Cys	Asn	Leu	Asp	Arg	Ile	Phe	Asn	Thr	Leu	Leu	Val	Asp
			325						330					335	
Leu	Gln	Glu	Tyr	Leu	Lys	Gln	Asn	Tyr	Thr	Pro	Trp	Leu	Ser	Pro	Asp
		340						345					350		
Glu	Ser	Val	Phe	Ala	Leu	Glu	Lys	Leu	Leu	Ser	Ser	Ser	Glu	Ala	Gln
		355					360						365		
Pro	Val	Val	Gln	Ala	Leu	Arg	Glu	Gln	Tyr	Gln	Leu	Val	Leu	Ile	Asp
	370					375					380				
Glu	Phe	Gln	Asp	Thr	Asp	Lys	Gln	Gln	Trp	Ser	Ile	Phe	Ser	Asn	Leu
385					390					395				400	
Phe	Ile	Ser	Pro	Lys	Phe	Thr	Gly	Ser	Leu	Phe	Leu	Ile	Gly	Asp	Pro
			405					410						415	
Lys	Gln	Ser	Ile	Tyr	Glu	Trp	Arg	Ser	Ala	Asp	Leu	Pro	Thr	Tyr	Leu
		420						425					430		
Thr	Ala	Lys	Ser	Ser	Phe	Ser	Glu	Asp	Lys	Gln	Leu	Gln	Leu	Val	Asn
		435					440					445			
Asn	Tyr	Arg	Ser	Thr	Pro	Lys	Leu	Met	Glu	Ala	Ile	Asn	Gln	Ile	Phe
	450					455					460				
Gly	Lys	Ile	Ser	Pro	Phe	Leu	Glu	Ile	Pro	Gly	Tyr	Leu	Pro	Ile	Glu
465					470					475				480	
Tyr	His	Ala	Leu	Asn	Pro	Gln	Ser	Ser	Glu	Thr	Phe	Glu	Asn	Pro	Pro
			485						490					495	
His	Ala	Pro	Ile	His	Phe	Phe	Phe	Tyr	Glu	Thr	Ile	Lys	Asp	Gln	Ala
		500						505					510		
Leu	Trp	Ile	Phe	Ser	Glu	Ala	Leu	Arg	Leu	Gln	Lys	Glu	Gln	Lys	Ile
		515					520						525		
Pro	Leu	Gly	Asn	Met	Val	Val	Leu	Val	Ser	Asp	Ser	Asn	Gln	Ala	Phe
	530					535					540				
Glu	Leu	Ile	Ser	Tyr	Ala	Thr	Ile	Pro	Val	Ser	Phe	Ser	Lys	Asn	Lys
545					550					555					560



Ser Ile Phe His Leu Thr Glu Thr His Ile Leu Thr Thr Ala Leu Leu  
 565 570 575  
 Glu Ala Ile Leu His Pro Glu Asn Tyr Glu Lys Ile Ser Lys Ile Leu  
 580 585 590  
 Phe Ser Ser Leu Phe Gly Leu Ser Leu Asp Glu Val Thr Thr Lys Lys  
 595 600 605  
 Glu Asp Phe Thr Ile Tyr Phe Gln Ser Leu His Ser Tyr Ile Ser His  
 610 615 620  
 His Gly Leu Leu Ala Thr Phe Tyr Arg Val Met Thr Thr Gln Gly Asn  
 625 630 635 640  
 Val Leu Phe Ser Ser Pro Arg Gly Asp Leu Ile Phe Gln Glu Met Glu  
 645 650 655  
 Lys Leu Cys Gly Tyr Leu Asp Thr Ile Ser Ser Tyr Pro Tyr His Gln  
 660 665 670  
 Leu Leu His Leu Lys Asn Phe Ser Glu Thr Gly Arg Trp Glu Glu Glu  
 675 680 685  
 Leu Ala Ile Ser Ser Tyr Ser Glu Asp Leu Glu Thr Leu Lys Ile Thr  
 690 695 700  
 Thr Ile His Ser Ser Lys Gly Leu Glu Tyr Asp Ile Val Phe Cys Pro  
 705 710 715 720  
 Gly Ile Glu Lys Ser Lys Lys Asn Lys Ser Ser Ser Glu Leu Leu Arg  
 725 730 735  
 Glu Met Tyr Val Ala Cys Thr Arg Ala Lys Lys Gln Leu Tyr Leu Pro  
 740 745 750  
 Ile Ser Thr Gln Pro Pro Ser Leu Gln Arg Ser Ser Ala Leu Thr Asn  
 755 760 765  
 Tyr Val Lys Leu Glu Gly Thr Gln Ser Ser Ala Tyr Asp Leu Ala Ile  
 770 775 780  
 His Leu His Gln Glu His Pro Asp Leu Phe Ser Tyr Ser Leu Pro Lys  
 785 790 795 800  
 Asp His Gly His Ala Thr Thr Val Leu Asn Leu Pro Leu Leu Glu Thr  
 805 810 815  
 Phe Ala Leu Lys Val Thr Pro Pro Lys Thr Ile Phe Ser Phe Ser Ser  
 820 825 830  
 Thr Lys Phe Leu Leu Asp Thr His Lys Asp Ser Gln Ser Ile Pro Tyr  
 835 840 845  
 Ser Lys Leu Pro Ile Ser Lys Gln Gln Leu Pro Leu Gly Glu Lys Thr  
 850 855 860  
 Gly Ile Leu Ile His Lys Ile Leu Glu Ser Ile Gln Phe Ser Leu Leu  
 865 870 875 880  
 Gln Asp Thr Glu Tyr Leu Met Ser Thr Ile Met Arg Phe Ile Lys His  
 885 890 895  
 Thr His Leu Glu Gly Phe Glu Glu Thr Ile Leu Lys Leu Leu Ser Lys  
 900 905 910  
 Thr Phe Phe Ser Pro Leu Thr Phe Ser Ser Gln Thr Phe Ser Leu Ser  
 915 920 925  
 Gln Val Leu Pro Asn Lys Ile Phe Arg Glu Thr Ser Phe Leu Phe Leu  
 930 935 940  
 Glu Asn Gln Glu Leu Trp Gln Gly Val Ile Asp Leu Phe Phe Glu His  
 945 950 955 960  
 Glu Gly Lys Tyr Tyr Ile Ile Asp Trp Lys Thr Ser Phe Leu Gly Glu  
 965 970 975  
 Thr Asn Ser Asp Tyr Ser Lys Ser Asn Leu Ser Ile Tyr Ile Lys Gln  
 980 985 990  
 Glu Lys Leu Asp Tyr Gln Gly Arg Ile Tyr Val Lys Ala Val Arg Lys  
 995 1000 1005  
 Phe Leu Asn Gln Phe Glu Ile Asp Asp Val Glu Leu Gly Val Ile  
 1010 1015 1020  
 Phe Ile Arg Gly Ile Asp Thr Gln Gly Asn Gly Phe Phe Ala Leu Asn  
 1025 1030 1035 1040

Ser Ser Glu Asp Ile Pro Asn Phe Asn Pro Lys Ala Ile Gln Lys Cys  
 1045 1050 1055  
 Gln Ala Tyr His  
 1060

<210> 741  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 741  
 Cys Lys Val Leu Phe Lys Leu Met Ser Tyr Ser Leu Arg Asn Lys Lys  
 1 5 10 15  
 Thr Lys Ile Cys Val Tyr Ile Ile Ile Ala Leu Gly Ile Leu Ser Phe  
 20 25 30  
 Arg Ser Ile Pro Gln Glu Val Tyr Asp Lys Ile Arg Ser Ser Phe Val  
 35 40 45  
 Ser Leu His Val Lys Phe Phe Pro Lys Ile Lys Gln Ala Pro Ser Ser  
 50 55 60  
 His Leu Ala Asn Leu Glu Leu Glu Asn Leu Val Leu Lys Glu Arg Val  
 65 70 75 80  
 Ala Ser Leu Glu Glu Lys Leu Lys Leu Tyr Glu Val Ser Asn His Thr  
 85 90 95  
 Pro Pro Leu Phe Pro Glu Ile Leu Thr Pro Tyr Phe His Lys Leu Val  
 100 105 110  
 Glu Gly Lys Val Val Tyr Arg Asp Tyr Thr His Trp Ser Ser Ser Cys  
 115 120 125  
 Trp Val Asn Val Gly Lys Thr His Gly Ile Lys Lys Asn Ser Pro Val  
 130 135 140  
 Leu Ser Gly Asn Val Leu Val Gly Leu Val Asp Tyr Val Gly Glu His  
 145 150 155 160  
 Gln Ser Arg Ile Arg Leu Ile Thr Asp Val Gly Met Lys Pro Ser Val  
 165 170 175  
 Val Ala Met Arg Gly Asp Ile Gln Ser Trp Trp Ile Lys His Ser Leu  
 180 185 190  
 Arg Glu Leu Ile Arg Gln Val Glu Gln Ile Ser His Ala Tyr Ile Leu  
 195 200 205  
 Glu Lys Asp Lys Tyr Glu Lys Ile Ser Gln Leu Gln Glu Leu Asp Ser  
 210 215 220  
 Leu Ile Gln Gly Glu Gly Glu Asn Gln Ala Leu Leu Arg Gly Ile Leu  
 225 230 235 240  
 Ser Gly Val Gly Gly Ala Leu Trp Lys Glu Gly Ser Leu Cys Leu Glu  
 245 250 255  
 Gly Glu Gly Phe Tyr Phe Ser Glu Gly Lys Thr Leu Leu Pro Gly Asp  
 260 265 270  
 Ile Leu Val Thr Thr Gly Leu Asp Gly Val Phe Pro Pro Gly Leu Leu  
 275 280 285  
 Val Ala Arg Val Thr Lys Val Lys Ala Pro Arg Asp Gly Ala Cys Thr  
 290 295 300  
 Phe Lys Ile Glu Ala Gln Ser Leu Glu Glu Lys Leu Met Glu Leu Asp  
 305 310 315 320  
 Gln Leu Phe Ile Leu Pro Pro Leu Glu Phe Asn Pro Asn Asp Arg Pro  
 325 330 335  
 Asp Ile Phe Gly Leu Leu Trp Asp  
 340

<210> 742  
 <211> 397  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 742

Ser	Tyr	Met	Ser	Phe	Phe	Asn	His	Ile	Pro	Thr	Phe	Ser	Pro	Asp	Ala
1				5					10					15	
Ile	Leu	Gly	Leu	Gln	Asn	Val	Phe	Phe	Ala	Asp	Lys	Arg	Pro	Glu	Lys
			20						25				30		
Val	Asn	Leu	Val	Ile	Gly	Val	Tyr	Glu	His	Pro	Gln	Lys	Arg	Tyr	Gly
		35					40					45			
Gly	Leu	Ser	Cys	Ile	Arg	Lys	Ala	Gln	Thr	Val	Ile	Leu	Glu	Glu	Glu
	50					55					60				
Gln	Asn	Lys	Ser	Tyr	Leu	Pro	Ile	Ser	Gly	Leu	Gln	Ile	Phe	Leu	Asp
65					70					75				80	
Glu	Met	Arg	Glu	Leu	Val	Phe	Gly	Ala	Val	Asp	Pro	Ser	Ala	Ile	Val
				85					90					95	
Gly	Phe	Gln	Ser	Leu	Gly	Gly	Thr	Gly	Ala	Leu	His	Leu	Gly	Ala	Arg
			100					105					110		
Leu	Leu	Ser	Val	Ala	Lys	Gly	Ser	Gly	Lys	Val	Tyr	Val	Pro	Glu	Gln
			115				120					125			
Thr	Trp	Ser	Asn	His	Ile	Arg	Ile	Phe	Ser	Gln	Glu	Gly	Leu	Glu	Val
	130					135					140				
Ile	Arg	Tyr	Pro	Tyr	Tyr	Ser	Lys	Glu	Gln	Lys	Gln	Leu	Leu	Phe	Glu
145					150					155					160
Pro	Leu	Ile	Ala	Phe	Leu	Lys	Glu	Val	Glu	Lys	Asn	Ser	Val	Ile	Leu
				165					170					175	
Leu	His	Gly	Cys	Cys	His	Asn	Pro	Thr	Gly	Val	Asp	Phe	Thr	Glu	Asp
			180					185					190		
Met	Trp	Lys	Glu	Leu	Ala	Ile	Leu	Met	Lys	Glu	Arg	Glu	Leu	Ile	Pro
		195					200					205			
Phe	Phe	Asp	Thr	Ala	Tyr	Gln	Gly	Phe	Ala	His	Gly	Ile	Glu	Leu	Asp
	210					215					220				
Arg	Lys	Pro	Ile	Glu	Ile	Phe	Ile	Ser	Glu	Gly	Asn	Thr	Val	Leu	Val
225					230					235					240
Ala	Ala	Ser	Ser	Ser	Lys	Asn	Phe	Ala	Leu	Tyr	Gly	Glu	Arg	Val	Gly
				245					250					255	
Tyr	Phe	Ala	Val	His	Ser	Thr	Phe	Thr	Asp	Glu	Leu	Val	Lys	Ile	His
			260					265					270		
Ser	Phe	Leu	Glu	Glu	Lys	Ile	Arg	Gly	Glu	Tyr	Ser	Ser	Pro	Gln	Arg
		275					280					285			
Trp	Gly	Val	Glu	Ile	Val	Ser	Thr	Ile	Leu	Ser	Asn	Pro	Tyr	Leu	Lys
	290					295					300				
Glu	Glu	Trp	Gln	Ser	Glu	Leu	Asn	Phe	Ile	Arg	Glu	Ser	Leu	Gly	Lys
305					310					315					320
Met	Arg	Thr	Arg	Phe	Val	Gln	Ala	Leu	Arg	Lys	Val	Ala	Gly	His	Thr
				325					330					335	
Phe	Asp	Phe	Leu	Ser	Gln	His	Gly	Phe	Phe	Ala	Tyr	Pro	Gly	Phe	
			340				345					350			
Ser	Asp	Lys	Gln	Val	Leu	Phe	Leu	Arg	Glu	Gln	His	Ala	Val	Tyr	Thr
		355					360					365			
Thr	Ala	Gly	Gly	Arg	Met	Asn	Leu	Asn	Gly	Ile	Thr	Glu	Lys	Asn	Ile
	370					375					380				
Asp	His	Val	Val	Gln	Ser	Phe	Ile	Gln	Ala	Tyr	Glu	Leu			
385					390					395					

<210> 743

<211> 733

<212> PRT

<213> Chlamydia pneumoniae

<400> 743

Glu	Tyr	Ile	Phe	Arg	Leu	Lys	Thr	Gly	Asp	Ile	Val	Asp	Tyr	Leu	Glu
1					5				10					15	

Lys Leu Gln Val Leu Ile Glu Glu Gly Gln Ser Ala Asn Phe Leu Ser  
 20 25 30  
 Leu Trp Glu Glu Tyr Cys Phe Asn Asp Val Val Arg Gly Arg Glu Leu  
 35 40 45  
 Val Glu Ile Leu Glu Lys Val Lys Ser Ser Ser Leu Ala Ser Leu Phe  
 50 55 60  
 Gly Lys Ile Val Asp Thr Val Val Pro Leu Trp Glu Lys Ile Pro Glu  
 65 70 75 80  
 Gly Lys Asp Lys Asp Arg Val Leu Gln Leu Ile Leu Asp Leu Gln Thr  
 85 90 95  
 Ser Asn Ser Gln Met Phe Phe Asp Ile Ala Thr Glu Tyr Val Asn Lys  
 100 105 110  
 Lys Tyr Ser Gly Glu Glu Asn Phe Asn Glu Ala Leu Arg Val Val Gly  
 115 120 125  
 Leu Arg Asp Gly Arg Asp Phe Gln Phe Ser Leu Ser Arg Phe Asp Phe  
 130 135 140  
 Leu Met His Met His Lys Gly Asn Phe Val Phe His Gln Gly Gly Trp  
 145 150 155 160  
 Gly Val Gly Glu Val Met Gly Val Ser Phe Leu Gln Gln Lys Val Leu  
 165 170 175  
 Ile Glu Phe Glu Gly Ile Met Ser Ala Lys Asp Ile Ser Phe Glu Thr  
 180 185 190  
 Ala Phe Lys Ser Leu Thr Pro Leu Ser Gly Asp His Phe Leu Ser Arg  
 195 200 205  
 Arg Phe Gly Asp Pro Asp Gly Phe Glu Ala Phe Ala Lys Glu Asn Pro  
 210 215 220  
 Ile Glu Val Val Glu Ile Leu Leu Arg Asp Leu Gly Pro Lys Thr Ala  
 225 230 235 240  
 Lys Glu Ile Lys Asp Glu Leu Val Asp Leu Val Ile Pro Glu Ala Asp  
 245 250 255  
 Trp Asn Arg Trp Trp Gln Ser Ala Lys Thr Lys Ile Lys Lys Gly Thr  
 260 265 270  
 Arg Ile Ile Ser Pro Asp Asn Pro Lys Glu Pro Tyr Val Leu Ser Asp  
 275 280 285  
 Ala Gly Cys Ser His Met Gly Gln Leu Glu Arg Lys Leu Gly Leu Ser  
 290 295 300  
 Leu Asn Ser Ala Glu Lys Ile Ser Leu Ile Tyr His Phe Ile Arg Asp  
 305 310 315 320  
 Leu His Ser Glu Leu Lys Asn Ile Glu Ile Arg Lys Ser Leu Val Lys  
 325 330 335  
 Ala Leu Gln Asp Leu Asp Val Glu Glu Gly Asn Lys Ser Leu Ile Leu  
 340 345 350  
 Gln Arg Glu Leu Leu Leu Ser Glu Tyr Leu Gly Ile Lys Asp Ala Ser  
 355 360 365  
 Ile Asp Lys Glu Tyr Ile Thr Ser Leu Ser Glu Asp Asp Thr Ser Arg  
 370 375 380  
 Leu Leu Glu Asn Met Pro Ile Val Ala Leu Gln Lys Ser Phe Leu Ser  
 385 390 395 400  
 Leu Val Arg Lys Tyr Ser Ser Phe Trp Gln Gln Val Phe Met Gln Ile  
 405 410 415  
 Leu Leu Tyr Thr Thr Ser Pro Thr Met Arg Asp Phe Val Tyr Lys Thr  
 420 425 430  
 Ile Lys Asn Asp Pro Ser Ser Val Glu Val Leu Lys Lys Arg Leu Leu  
 435 440 445  
 Asp Ser Ala His Gln Pro Met Met Phe Pro Glu Leu Phe Val Trp Phe  
 450 455 460  
 Phe Leu Lys Leu Gly Asn His Glu Asp Gly Leu Phe Asp Pro Glu Asp  
 465 470 475 480  
 Lys Glu Val Leu Arg Leu Phe Leu Glu Ser Ala Leu Asn Phe Met Tyr  
 485 490 495

Gln Val Ala Ser Thr Pro His Lys Glu Leu Gly Lys Lys Leu His His  
 500 505 510  
 Tyr Leu Val Gly Gln Arg Tyr Leu Ala Val Arg Gln Met Ile Glu Gly  
 515 520 525  
 Ala Ser Leu Pro Phe Leu Lys Glu Leu Leu Leu Leu Ser Thr Lys Cys  
 530 535 540  
 Pro Gln Phe Ser Ser Ser Asp Leu Asn Val Leu Gln Ser Leu Ala Glu  
 545 550 555 560  
 Val Val Gln Pro Thr Leu Lys Lys His Lys Ser Asn Val Glu Glu Glu  
 565 570 575  
 Asn Val Leu Trp Ser Thr Ser Glu Ser Phe Ser Arg Met Lys Ala Lys  
 580 585 590  
 Leu Gln Ser Leu Val Gly Lys Glu Met Val Asp Asn Ala Lys Glu Ile  
 595 600 605  
 Glu Asp Ala Arg Ser Leu Gly Asp Leu Arg Glu Asn Ser Glu Tyr Lys  
 610 615 620  
 Phe Ala Leu Glu Lys Arg Ala Arg Leu Gln Glu Glu Ile Arg Val Leu  
 625 630 635 640  
 Ser Glu Glu Ile Asn Arg Ala Arg Ile Leu Thr Lys Asp Leu Val Phe  
 645 650 655  
 Thr Asp Lys Val Gly Val Gly Cys Lys Val Thr Leu Lys Gly Asp Ala  
 660 665 670  
 Gly Glu Val Val Glu Tyr Thr Ile Leu Gly Pro Trp Asp Ala Asp Pro  
 675 680 685  
 Asp Ser Cys Ile Leu Ser Leu Gln Ser Lys Leu Ala Gln Asn Met Leu  
 690 695 700  
 Gly Lys Lys Leu Asn Asp Val Val Ile Leu Gln Gly Lys Glu Tyr Lys  
 705 710 715 720  
 Ile Ser Arg Ile Gln Ser Ile Trp Glu Glu His Gly Ala  
 725 730

<210> 744  
 <211> 149  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 744  
 Thr Lys Met Met Val Ile Val Met Asn Ser Lys Ser Ala Gln Lys Ile  
 1 5 10 15  
 Ile Asp Ser Ile Lys Gln Ile Leu Thr Ile Tyr Asn Ile Asp Phe Asp  
 20 25 30  
 Pro Ser Phe Gly Ser Ser Leu Ser Asp Ser Asp Ala Asp Tyr Glu  
 35 40 45  
 Tyr Leu Ile Thr Lys Thr Gln Glu Lys Ile Gln Glu Leu Asp Lys Arg  
 50 55 60  
 Ala Gln Glu Ile Leu Thr Gln Thr Gly Met Ser Lys Glu Gln Met Glu  
 65 70 75 80  
 Val Phe Ala Asn Asn Pro Asp Asn Phe Ser Pro Glu Glu Trp Leu Ala  
 85 90 95  
 Leu Glu Lys Val Arg Ser Ser Cys Asp Glu Tyr Arg Lys Glu Thr Glu  
 100 105 110  
 Asn Leu Ile Asn Glu Ile Thr Leu Asp Leu His Pro Thr Lys Glu Ser  
 115 120 125  
 Lys Arg Pro Lys Gln Lys Leu Ser Ser Thr Lys Lys Asn Lys Lys Lys  
 130 135 140  
 Asn Trp Ile Pro Leu  
 145

<210> 745  
 <211> 469  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 745  
 Ile Phe Met Lys Ile Thr Val Asn Arg Gly Leu Asp Leu Ser Leu Gln  
 1 5 10 15  
 Gly Ser Pro Lys Glu Ser Gly Phe Tyr Asn Lys Ile Asp Pro Glu Phe  
 20 25 30  
 Val Ser Ile Asp Leu Arg Pro Phe Gln Pro Leu Ser Leu Lys Leu Lys  
 35 40 45  
 Val Glu Gln Gly Asp Ala Val Cys Ser Gly Ala Pro Ile Ala Glu Tyr  
 50 55 60  
 Lys His Phe Pro Asn Thr Tyr Ile Thr Ser His Val Ser Gly Val Val  
 65 70 75 80  
 Thr Ala Ile Arg Arg Gly Asn Lys Arg Ser Leu Leu Asp Val Ile Ile  
 85 90 95  
 Lys Lys Thr Pro Gly Pro Thr Ser Thr Glu Tyr Thr Tyr Asp Leu Gln  
 100 105 110  
 Thr Leu Ser Arg Ser Asp Leu Ser Glu Ile Phe Lys Glu Asn Gly Leu  
 115 120 125  
 Phe Ala Leu Ile Lys Gln Arg Pro Phe Asp Ile Pro Ala Ile Pro Thr  
 130 135 140  
 Gln Thr Pro Arg Asp Val Phe Ile Asn Leu Ala Asp Asn Arg Pro Phe  
 145 150 155 160  
 Thr Pro Ser Pro Glu Lys His Leu Ala Leu Phe Ser Ser Arg Glu Glu  
 165 170 175  
 Gly Phe Tyr Val Phe Val Val Gly Val Arg Ala Ile Ala Lys Leu Phe  
 180 185 190  
 Gly Leu Arg Pro His Ile Val Phe Arg Asp Arg Leu Thr Leu Pro Thr  
 195 200 205  
 Gln Glu Leu Lys Thr Ile Ala His Leu His Thr Val Ser Gly Pro Phe  
 210 215 220  
 Pro Ser Gly Ser Pro Ser Ile His Ile His Ser Val Ala Pro Ile Thr  
 225 230 235 240  
 Asn Glu Lys Glu Val Val Phe Thr Leu Ser Phe Gln Asp Val Leu Thr  
 245 250 255  
 Ile Gly His Leu Phe Leu Lys Gly Arg Ile Leu His Glu Gln Val Thr  
 260 265 270  
 Ala Leu Ala Gly Thr Ala Leu Lys Ser Ser Leu Arg Arg Tyr Val Ile  
 275 280 285  
 Thr Thr Lys Gly Ala Ser Phe Ser Ser Leu Ile Asn Leu Asn Asp Ile  
 290 295 300  
 Ser Asp Asn Asp Thr Leu Ile Ser Gly Asp Pro Leu Thr Gly Arg Leu  
 305 310 315 320  
 Cys Lys Lys Glu Glu Glu Pro Phe Leu Gly Phe Arg Asp His Ser Ile  
 325 330 335  
 Ser Val Leu His Asn Pro Thr Lys Arg Glu Leu Phe Ser Phe Leu Arg  
 340 345 350  
 Ile Gly Phe Asn Lys Pro Thr Phe Thr Lys Thr Tyr Leu Ser Gly Phe  
 355 360 365  
 Phe Lys Lys Lys Arg Thr Tyr Thr Asn Pro Asp Thr Asn Leu His Gly  
 370 375 380  
 Glu Thr Arg Pro Ile Ile Asp Thr Asp Ile Tyr Asp Lys Val Met Pro  
 385 390 395 400  
 Met Arg Ile Pro Val Val Pro Leu Ile Lys Ala Val Ile Thr Lys Asn  
 405 410 415  
 Phe Asp Leu Ala Asn Glu Leu Gly Phe Leu Glu Val Cys Gly Glu Asp  
 420 425 430

Phe Ala Leu Pro Thr Leu Ile Asp Pro Ser Lys Thr Glu Met Leu Thr  
 435 440 445  
 Ile Val Lys Glu Ser Leu Ile Glu Tyr Ala Lys Glu Ser Gly Ile Leu  
 450 455 460  
 Thr Pro His Gln Asp  
 465

<210> 746  
 <211> 333  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 746  
 Glu Met Ser Ser Leu Thr Leu Ser Arg Arg Pro Arg Arg Asn Arg Lys  
 1 5 10 15  
 Thr Ala Ala Ile Arg Asp Leu Leu Ala Glu Thr His Leu Ser Pro Lys  
 20 25 30  
 Asp Leu Ile Ala Pro Phe Phe Val Lys Tyr Gly Asn Asn Ile Lys Glu  
 35 40 45  
 Glu Ile Pro Ser Leu Pro Gly Val Phe Arg Trp Ser Leu Asp Leu Leu  
 50 55 60  
 Leu Lys Glu Ile Glu Arg Leu Cys Thr Tyr Gly Leu Arg Ala Val Met  
 65 70 75 80  
 Leu Phe Pro Ile Ile Pro Asp Asp Leu Lys Asp Ala Tyr Gly Ser Tyr  
 85 90 95  
 Ser Ser Asn Pro Lys Asn Ile Leu Cys His Ser Ile His Glu Ile Lys  
 100 105 110  
 Asn Ala Phe Pro His Leu Cys Leu Ile Ser Asp Ile Ala Leu Asp Pro  
 115 120 125  
 Tyr Thr Thr His Gly His Asp Gly Ile Phe Leu Asn Gly Glu Val Leu  
 130 135 140  
 Asn Asp Glu Ser Val Arg Ile Phe Gly Asn Ile Ala Thr Leu His Ala  
 145 150 155 160  
 Glu Met Gly Ala Asp Ile Val Ala Pro Ser Asp Met Met Asp Gly Arg  
 165 170 175  
 Ile Gly Tyr Ile Arg Ser Lys Leu Asp Gln Ser Gly Tyr Ser Lys Thr  
 180 185 190  
 Ser Ile Met Ser Tyr Ser Val Lys Tyr Ala Ser Cys Leu Tyr Ser Pro  
 195 200 205  
 Phe Arg Asp Ala Leu Ser Ser His Val Thr Ser Gly Asp Lys Lys Gln  
 210 215 220  
 Tyr Gln Met Asn Pro Lys Asn Val Leu Glu Ala Leu Leu Glu Ser Ser  
 225 230 235 240  
 Leu Asp Glu Glu Gly Ala Asp Ile Leu Met Val Lys Pro Ala Gly  
 245 250 255  
 Leu Tyr Leu Asp Val Ile Tyr Arg Ile Arg Gln Asn Thr Cys Leu Pro  
 260 265 270  
 Leu Ala Ala Tyr Gln Val Ser Gly Glu Tyr Ala Met Ile Leu Ser Ala  
 275 280 285  
 Phe Gln Gln Gly Trp Leu Asp Lys Glu Thr Leu Phe His Glu Ser Leu  
 290 295 300  
 Ile Ala Ile Lys Arg Ala Gly Ala Asp Met Ile Ile Ser Tyr Ser Ala  
 305 310 315 320  
 Pro Phe Ile Leu Glu Leu Leu His Gln Gly Phe Glu Phe  
 325 330

<210> 747  
 <211> 54  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 747  
 Val Asp Ser Cys Phe Asp Asp Trp Arg Ala Ser Ser Leu Gln Gly Ser  
 1 5 10 15  
 Thr Thr Tyr Asn Val Ala Tyr Asp Pro Lys His Thr Leu Ala Tyr Gly  
 20 25 30  
 Phe Cys Asn Gln Val Ser Val Lys Lys Phe His Leu Lys Pro Pro Lys  
 35 40 45  
 Ser Gln Glu Lys Phe Leu  
 50

<210> 748  
 <211> 543  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 748  
 Phe Ser Gly Arg Cys Pro Phe Ser Phe Glu Val Phe Met Leu Gly Lys  
 1 5 10 15  
 Glu Glu Glu Phe Thr Cys Lys Gln Lys Gln Cys Leu Ser His Phe Val  
 20 25 30  
 Thr Asn Leu Thr Ser Asp Val Phe Ala Leu Lys Asn Leu Pro Glu Val  
 35 40 45  
 Val Lys Gly Ala Leu Phe Ser Lys Tyr Ser Arg Ser Val Leu Gly Leu  
 50 55 60  
 Arg Ala Leu Leu Leu Lys Glu Phe Leu Ser Asn Glu Glu Asp Gly Asp  
 65 70 75 80  
 Val Cys Asp Glu Ala Tyr Asp Phe Glu Thr Asp Val Gln Lys Ala Ala  
 85 90 95  
 Asp Phe Tyr Gln Arg Val Leu Asp Asn Phe Gly Asp Asp Ser Val Gly  
 100 105 110  
 Glu Leu Gly Gly Ala His Leu Ala Met Glu Asn Val Ser Ile Leu Ala  
 115 120 125  
 Ala Lys Val Leu Glu Asp Ala Arg Ile Gly Gly Ser Pro Leu Glu Lys  
 130 135 140  
 Ser Thr Arg Tyr Val Tyr Phe Asp Gln Lys Val Arg Gly Glu Tyr Leu  
 145 150 155 160  
 Tyr Tyr Arg Asp Pro Ile Leu Met Thr Ser Ala Phe Lys Asp Met Phe  
 165 170 175  
 Leu Gly Thr Cys Asp Phe Leu Phe Asp Thr Tyr Ser Ala Leu Ile Pro  
 180 185 190  
 Gln Val Arg Ala Tyr Phe Glu Lys Leu Tyr Pro Lys Asp Ser Lys Thr  
 195 200 205  
 Pro Ala Ser Ala Tyr Ala Thr Ser Leu Arg Ala Lys Val Leu Asp Cys  
 210 215 220  
 Ile Arg Gly Leu Leu Pro Ala Ala Thr Leu Thr Asn Leu Gly Phe Phe  
 225 230 235 240  
 Gly Asn Gly Arg Phe Trp Gln Asn Leu Ile His Lys Leu Gln Gly His  
 245 250 255  
 Asn Leu Ala Glu Leu Arg Arg Leu Gly Asp Glu Ser Leu Thr Glu Leu  
 260 265 270  
 Met Lys Val Ile Pro Ser Phe Val Ser Arg Ala Glu Pro His His His  
 275 280 285  
 His His Gln Ala Met Met Gln Tyr Arg Arg Ala Leu Lys Glu Gln Leu  
 290 295 300  
 Lys Gly Leu Ala Glu Gln Ala Thr Phe Ser Glu Glu Met Ser Ser Ser  
 305 310 315 320  
 Pro Ser Val Gln Leu Val Tyr Gly Asp Pro Asp Gly Ile Tyr Lys Val  
 325 330 335  
 Ala Ala Gly Phe Leu Phe Pro Tyr Ser Asn Arg Ser Leu Thr Asp Leu  
 340 345 350



Ile Asp Tyr Cys Lys Lys Met Pro His Glu Asp Leu Val Gln Ile Leu  
 355 360 365  
 Glu Ser Ser Val Ser Ala Arg Glu Asn Arg Arg His Lys Ser Pro Arg  
 370 375 380  
 Gly Leu Glu Cys Val Glu Phe Gly Phe Asp Ile Leu Ala Asp Phe Gly  
 385 390 395 400  
 Ala Tyr Arg Asp Leu Gln Arg His Arg Thr Leu Thr Gln Glu Arg Gln  
 405 410 415  
 Leu Leu Ser Thr His His Gly Tyr Asn Phe Pro Val Glu Leu Leu Asp  
 420 425 430  
 Thr Pro Met Glu Lys Ser Tyr Arg Glu Ala Met Glu Arg Ala Asn Glu  
 435 440 445  
 Thr Tyr Asn Glu Ile Val Gln Glu Phe Pro Glu Glu Ala Gln Tyr Met  
 450 455 460  
 Val Pro Met Ala Tyr Asn Ile Arg Trp Phe Phe His Val Asn Ala Arg  
 465 470 475 480  
 Ala Leu Gln Trp Ile Cys Glu Leu Arg Ser Gln Pro Gln Gly His Gln  
 485 490 495  
 Asn Tyr Arg Thr Ile Ala Thr Gly Leu Val Arg Glu Val Val Lys Phe  
 500 505 510  
 Asn Pro Met Tyr Glu Leu Phe Phe Lys Phe Val Asp Tyr Ser Asp Ile  
 515 520 525  
 Asp Leu Gly Arg Leu Asn Gln Glu Met Arg Lys Glu Pro Thr Thr  
 530 535 540

<210> 749

<211> 35

<212> PRT

<213> Chlamydia pneumoniae

<400> 749

Arg Thr Cys Met Gly Cys Lys Gly Ala Glu Val Gln Ile Leu Ser Ser  
 1 5 10 15  
 Arg Ser Leu Ser Gly Met Lys Ile Leu Ser Ser Ser Leu Phe Tyr Lys  
 20 25 30  
 Lys Phe Cys  
 35

<210> 750

<211> 292

<212> PRT

<213> Chlamydia pneumoniae

<400> 750

Gly Thr Leu Val Leu His Ala Leu Asp Thr Tyr Arg Pro Ser Ile Glu  
 1 5 10 15  
 Ser Ala Ile Glu Lys Ala Leu Glu Gly Phe Gly Pro Ile Gly His Pro  
 20 25 30  
 Ile Arg Ser Pro Val Glu Tyr Ala Leu Gln Gly Gly Lys Arg Leu  
 35 40 45  
 Arg Pro Gly Leu Val Cys Met Ala Gln Gly Leu Gly Leu Asn His  
 50 55 60  
 Asp Val Met Asp Ser Ala Leu Ala Val Glu Phe Val His Thr Ser Thr  
 65 70 75 80  
 Leu Ile Ala Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Glu Arg Arg  
 85 90 95  
 Gly Arg Pro Thr Val His Lys Ala Phe Asp Glu Ala Thr Ala Leu Leu  
 100 105 110  
 Ala Ser Tyr Ala Leu Ile Pro Ala Ala Tyr Ser His Leu Arg Leu Asn  
 115 120 125

Ala Lys Lys Leu Lys Glu Gln Gly Cys Asp Pro Arg Glu Ile Asp Ile  
 130 135 140  
 Ala Tyr Asn Ile Ile Gly Asp Ile Thr Asp Lys Asn Ile Gly Cys Ser  
 145 150 155 160  
 Gly Val Leu Gly Gly Gln Tyr Asp Asp Met Phe Phe Ser Asn Arg Gly  
 165 170 175  
 Gln Glu His Val Gln Ser Ile Met Ile Lys Lys Thr Gly Ser Leu Phe  
 180 185 190  
 Glu Ile Ala Cys Ile Ser Gly Trp Leu Phe Gly Gly Gly Asp Pro Gln  
 195 200 205  
 Phe Ala Pro Ile Ile Thr Ser Phe Ser Asn Asn Phe Gly Leu Leu Phe  
 210 215 220  
 Gln Ile Lys Asp Asp Phe Ser Asp Leu Gln Lys Asp Ser Gln Gln Ile  
 225 230 235 240  
 Gly Leu Asn Tyr Ala Leu Leu Phe Gly Glu Lys Ala Ala Leu Glu Leu  
 245 250 255  
 Leu Ala Arg Ser Gln Asn Asn Cys Leu Glu Leu Leu Asp Arg Leu Ser  
 260 265 270  
 Ala Gly Gly Leu Lys Asn Ser Ser Glu Phe Glu Thr Ile Ile Ser Ser  
 275 280 285  
 Leu Gly Ser Phe  
 290

<210> 751  
 <211> 211  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 751  
 Val Cys Tyr Met Thr Tyr Leu Ala Ser Ser Ile Phe Ser Pro Glu Asp  
 1 5 10 15  
 Phe Leu Tyr Pro Glu Ile Ile Ser Lys Ala His Tyr Thr Trp Asp Ile  
 20 25 30  
 Leu Asp Leu Met Asp Gln Met Leu Glu Asn His Val Phe Ser Gly Ile  
 35 40 45  
 His Gly Thr Val Glu Ser Gly Val Thr Leu Lys Asn Ile Glu Lys Ile  
 50 55 60  
 Glu Ile Ala Glu Asp Ala Tyr Val Glu Ser Gly Ala Tyr Ile Val Gly  
 65 70 75 80  
 Pro Cys Ile Leu Gly Ser Gln Thr Glu Val Arg His Gly Ala Tyr Leu  
 85 90 95  
 Arg Gly Asn Val Ile Thr Gly Ser Arg Cys Val Val Gly His Cys Thr  
 100 105 110  
 Glu Ile Lys Asn Ser Tyr Leu Gly His His Thr Lys Ala Ala His Phe  
 115 120 125  
 Ala Tyr Leu Gly Asp Ser Val Leu Ser Ser Glu Val Asn Leu Gly Ala  
 130 135 140  
 Gly Val Arg Cys Ala Asn Phe Arg Leu Asp Gly Arg Asn Ile Tyr Val  
 145 150 155 160  
 Arg Ser Thr Ser Asp Lys Ser Lys Lys Ile Asp Thr Gly Arg Arg Lys  
 165 170 175  
 Leu Gly Ala Phe Leu Gly Lys Gly Val Ala Ile Gly Cys Asn Val Val  
 180 185 190  
 Ile Asn Pro Gly Gln His Ile Leu Pro His Thr Arg Ile Arg Pro Gly  
 195 200 205  
 Gln Val Ile  
 210

<210> 752  
 <211> 253  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 752

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Lys Ile Thr Asp Phe Ile Leu Arg Ile His Ser Tyr Asn Leu Phe Cys
1      5      10      15
Phe His Met Ile Gly Asp Lys Ile Ile Leu Phe Val Thr Glu Asp Leu
20      25      30
Ser Leu Ser Ser Gln Leu Lys Asp Leu Ala Ser Gln Arg Ser Asp Tyr
35      40      45
Gln Ile Leu Val Ser Pro Val Phe Pro Thr Ser Phe Glu Ser Val Ala
50      55      60
Ile Phe Cys Glu Tyr Leu Leu Leu Pro Glu Gln Ile Phe Ser Pro Gly
65      70      75      80
Ile Phe Pro Glu Glu Asp Leu Ile Val Leu Phe Asp Thr Phe Gln Glu
85      90      95
Glu Ala Ile Thr Lys Val Leu Asn Gln Gly Ala Thr Gly Tyr Leu Leu
100     105     110
Arg Pro Ile Thr Ala Lys Val Leu Asp Ala Val Ile Arg Ala Phe Leu
115     120     125
Arg Gln His Glu Val Leu Glu His Ser Ile Pro Asp Thr Met Thr Phe
130     135     140
Gly Asp His Thr Phe Arg Val Leu Asn Leu Val Ile Glu Ser Pro Glu
145     150     155     160
Gly Ser Val Tyr Leu Thr Pro Ser Glu Ala Gly Ile Leu Lys Lys Leu
165     170     175
Leu Ile Asn Arg Gly His Leu Cys Leu Arg Lys Asn Leu Leu Ala Glu
180     185     190
Ile Lys Gly Asn Thr Lys Glu Ile Ile Ala Arg Asn Val Asp Val His
195     200     205
Ile Ala Ser Leu Arg Lys Lys Leu Gly Pro Tyr Gly Ser Lys Ile Val
210     215     220
Thr Ile Arg Gly Val Gly Tyr Leu Phe Ser Asp Asp Asp Ser Ile Pro
225     230     235     240
Leu Gln Asn His Asp Asn Thr Ala His Pro Asn Glu Glu
245     250

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<210> 753  
 <211> 609  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 753

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Met Phe Arg Cys Ile Leu Phe Gly Ile Phe Leu Leu Thr Cys Phe Ser
1      5      10      15
Ser Gly Gly Val Leu Tyr Tyr Leu Phe Cys Ser His Asp Phe Ser Ile
20      25      30
Gly Pro Lys Glu Lys Ser Arg Ser Val Trp Ile Glu Glu Lys Glu
35      40      45
Phe Thr Asp Ser Val Leu His His Leu Pro Ser Gln His Gln His Leu
50      55      60
His Ile Leu Cys Phe Gln Gly Phe Leu Leu Gln Lys Gln Gln Lys Phe
65      70      75      80
Ser Gln Ala Glu Lys Ile Phe Ser Lys Val Tyr Asp Glu Ala Gln Asp
85      90      95
Gly Pro Phe Leu Phe Lys Glu Glu Ile Leu Gly Ser Arg Leu Ile Asn
100     105     110
Ser Phe Phe Leu Glu Lys Thr Asp Val Met Glu Thr Ile Leu Cys Leu
115     120     125

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Leu Asn Gln Arg Cys Pro Asn Ser Pro Tyr Tyr His Leu Phe Lys Ala  
 130 135 140  
 Leu Val Cys Tyr Lys Gln Lys Leu Tyr Arg Glu Val Ile Glu Gln Leu  
 145 150 155 160  
 Ala Tyr Trp Gln Glu Glu Lys Thr Arg Ala Leu Ala Pro Leu Leu Asn  
 165 170 175  
 Ile Ser Ile Glu Gln Leu Leu Thr Asp Phe Leu Leu Asp Tyr Ile Ser  
 180 185 190  
 Ala His Ser Leu Ile Glu Gln Lys Met Phe Pro Glu Gly Arg Val Ile  
 195 200 205  
 Leu Asn Arg Asn Ile Asn Arg Leu Leu Lys His Glu Cys Glu Trp Asn  
 210 215 220  
 Ala Lys Thr Tyr Asp Arg Ile Ala Ile Leu Leu Ser Arg Ser Tyr Phe  
 225 230 235 240  
 Leu Glu Leu Val Glu Ser Lys Ser Ala Asp Ile Tyr Phe Asp Tyr Tyr  
 245 250 255  
 Glu Met Val Leu Phe Tyr Leu Lys Lys Ile Tyr Ile Leu Glu Gln Cys  
 260 265 270  
 Pro Tyr Ala Glu Leu Leu Pro Glu Glu Glu Leu Val Ser Leu Ile Met  
 275 280 285  
 Glu His Val Phe Ile Leu Pro Lys Asp Lys Leu Tyr Pro Leu Ile Gln  
 290 295 300  
 Leu Leu Glu Met Trp Gln Lys His Tyr Val His Pro Asn Ser Ser Leu  
 305 310 315 320  
 Val Val Gln Ile Leu Val Asp Arg Phe Ser Thr His Met Glu Gly Ala  
 325 330 335  
 Ile Arg Phe Cys Glu Ala Leu Val Ser Phe Ser Gly Leu Glu Glu Leu  
 340 345 350  
 His Gln Gln Ile Ile Thr Thr Phe Glu Glu Leu Leu Ser Asn Lys Val  
 355 360 365  
 Gln Gln Ile Lys Thr Glu Glu Ala Lys Gln Cys Val Ala Leu Leu His  
 370 375 380  
 Ile Leu Asp Pro Ser Ile Ser Ile Ser Glu Lys Leu Ala Leu Ser Ser  
 385 390 395 400  
 Asp Thr Leu Gln Asn Ile Val Ser Gly Asp Asp Glu Gln His Thr Lys  
 405 410 415  
 Leu Arg Asn Tyr Leu Asp Leu Trp Glu Ala Ile Gln Ser Tyr Asp Ile  
 420 425 430  
 Asp Arg Gln Gln Leu Val His His Leu Val Tyr Gly Ala Lys Asp Leu  
 435 440 445  
 Trp Lys Lys Gly Gly Asn Asp Glu Lys Ala Leu Asn Leu Leu Gln Leu  
 450 455 460  
 Val Leu Arg Phe Thr Ser Tyr Asp Ile Glu Cys Glu Ser Val Val Phe  
 465 470 475 480  
 Leu Phe Ile Lys Gln Ala Tyr Lys Gln Ala Leu Ser Ser His Ala Ile  
 485 490 495  
 Ala Arg Leu Leu Lys Leu Glu Lys Phe Ile Ser Glu Ala Asn Ile Pro  
 500 505 510  
 Ser Ile Val Ile Ser Glu Ala Glu Lys Ala Asn Phe Leu Ala Asp Ala  
 515 520 525  
 Glu Tyr Leu Phe Ala His Glu Asp Tyr Asp Lys Cys Tyr Leu Tyr Ser  
 530 535 540  
 Met Trp Leu Thr Lys Val Ala Pro Ser Pro Gln Ser Tyr Arg Leu Ala  
 545 550 555 560  
 Gly Leu Cys Leu Met Glu Asn Lys Arg Tyr Asp Glu Ala Leu Glu Phe  
 565 570 575  
 Leu Cys Met Leu Ser Pro Asn Asp Ser Ile Asn Asp Tyr Lys Thr Gln  
 580 585 590  
 Lys Ala Leu Ala Phe Cys Gln Lys His Gln Ser Lys Asp Arg Ala Ala  
 595 600 605  
 Ser

<210> 754  
 <211> 496  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 754  
 Gly Trp Ala Leu His Thr Glu Phe Ala Pro Phe Leu Glu Asp Leu Val  
 1 5 10 15  
 His Gln Gln Val Ile Ser Pro Leu Asp Ile Ala Phe Ala Ser Lys His  
 20 25 30  
 Ile Ser Ser Asp Phe Glu Glu Ser Phe Val Phe Leu Ala Val Ser Ser  
 35 40 45  
 Ala Leu Trp Arg Tyr Gly His Pro Phe Leu Ser Leu Glu Glu Asn Arg  
 50 55 60  
 Ile Arg Pro Ser Leu Gly Gly Ile Ser Glu Thr Asp Leu Tyr Arg Gly  
 65 70 75 80  
 Phe His Asn Leu Pro Lys Glu Ala Arg Asp Lys Leu Phe Val Val Val  
 85 90 95  
 Ser Gly Arg Leu Tyr Leu Arg Ser Leu Tyr Thr Ile Arg Ser Lys Leu  
 100 105 110  
 Leu Asp Lys Leu Ser Leu Leu Cys Ser Ala Thr Pro Asn Tyr Phe Pro  
 115 120 125  
 Pro Ser Ile Asp Ser Ser Ile Leu Ser Glu Glu Gln Asn Phe Ile Phe  
 130 135 140  
 Asn Lys Ile Thr Gln Gly Cys Phe Ser Ile Val Ser Gly Gly Pro Gly  
 145 150 155 160  
 Thr Gly Lys Thr Phe Leu Ala Ala Gln Leu Ile Leu Ser Leu Val Lys  
 165 170 175  
 Gln Gln Pro Lys Leu Arg Ile Ala Ile Val Ser Pro Thr Gly Lys Ala  
 180 185 190  
 Thr Ser His Ile Arg Gln Ile Leu Met Lys Tyr Asn Ile Phe Asp Asp  
 195 200 205  
 Met Val Leu Met Gln Thr Val His His Phe Leu Gln Glu Tyr Ala Tyr  
 210 215 220  
 Arg Arg Tyr Asn Ser Ile Asp Val Leu Leu Val Asp Glu Gly Ser Met  
 225 230 235 240  
 Val Thr Phe Asp Leu Leu Tyr Ser Leu Val Gln Thr Leu Gln Gly Tyr  
 245 250 255  
 Glu Lys Asp Lys Lys Leu Tyr Thr Ser Ser Leu Ile Ile Leu Gly Asp  
 260 265 270  
 Thr Asn Gln Leu Pro Pro Ile Gly Ile Gly Val Gly Asn Pro Leu Gln  
 275 280 285  
 Asp Leu Ile Gly Tyr Phe His Glu Asn Thr Phe Phe Leu Lys Thr Ser  
 290 295 300  
 His Arg Ala Lys Thr Gly Val Val Asp Gln Leu Thr Gln Ser Val Leu  
 305 310 315 320  
 Arg Gly Glu Met Ile Ser Phe Ser Pro Leu Pro Ser Ile Ser Ser Ala  
 325 330 335  
 Ile Glu Val Leu Lys Asn Arg Phe Val Lys Ser Leu Arg Gln Ser Glu  
 340 345 350  
 Ala Arg Leu Cys Val Leu Thr Pro Met Arg His Gly Pro Trp Gly Val  
 355 360 365  
 Leu Asn Leu Asn Thr Met Ile His Gln Arg Leu Ala Arg Ser Asp Pro  
 370 375 380  
 Asp Leu Arg Ile Pro Ile Met Val Thr Ser Arg Tyr Glu Thr Trp Gly  
 385 390 395 400  
 Leu Phe Asn Gly Asp Thr Gly Leu Leu Cys Leu Lys Thr Gln Lys Leu  
 405 410 415  
 His Phe Pro Gln His Glu Pro Ile Asp Ser Arg Ala Leu Ser Gln Tyr  
 420 425 430

Val Tyr Asn Tyr Val Met Ser Val His Lys Ser Gln Gly Ser Glu Tyr  
 435 440 445  
 Asp Glu Val Ile Val Ile Ile Pro Lys Gly Ser Glu Val Phe Gly Val  
 450 455 460  
 Ser Ile Leu Tyr Thr Ala Ile Thr Arg Ala Lys Tyr Arg Val Ser Val  
 465 470 475 480  
 Trp Gly Asp Pro Glu Thr Leu His Lys Ile Ile Lys Lys Ser Asn Tyr  
 485 490 495

<210> 755  
 <211> 283  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 755  
 Ile Met Ala Thr Ala His Leu Gly Arg Gln Ala Leu Leu His Leu Arg  
 1 5 10 15  
 Ser Trp Thr Pro Ala Ile Arg Ala Ser Gly Asn Leu Phe Arg Gln Gln  
 20 25 30  
 Ser Met Ser Leu His Asn Asn Val Leu Phe Ala Gly Asp Ile Val Gly  
 35 40 45  
 Ala Ile Lys Asn Ser Thr Ala Ile Ser Arg His Ala Leu Gly Ser Ser  
 50 55 60  
 His Tyr Ala His Ala Ala Leu Gln Lys Thr Glu Gly Phe Leu Gly Ala  
 65 70 75 80  
 Ala Asp Gly Val Asn Thr Ala Val Ala Gly Ala Met Leu Trp Gly Gln  
 85 90 95  
 Leu Leu Asn Gly Ser Met Ile Phe Glu Thr Asp Glu Glu Thr Gly Glu  
 100 105 110  
 Leu Arg Arg Cys Asn Glu Ala Asp Ala Glu Gly Cys Met Thr Gln Lys  
 115 120 125  
 Leu Gln Arg Arg Ser Ala Leu Thr Ile Thr Gly Lys Val Ala Arg Leu  
 130 135 140  
 Ala Ser Lys Thr Leu Gly Thr Ala Thr Phe Leu His Glu Met Asp Val  
 145 150 155 160  
 Val Ser Leu Gly Ala Asn Ala Asn Lys Ile Gly Cys Lys Val Thr Ser  
 165 170 175  
 Cys Leu Asn Leu Val Ala Thr Gly Cys Ser Leu Thr Glu Ser Ser Ile  
 180 185 190  
 Ser Leu Tyr Arg Ile Leu Ser Thr Arg Pro Glu Thr Ile Ser Asp Pro  
 195 200 205  
 Glu Asn Arg Asn Lys Pro Ser Ala Glu Phe Ala Ala Arg Ser Lys Ala  
 210 215 220  
 Ile Arg Asn Ala Phe Ile Ala Trp Leu Gly Asp Val Val Asp Leu Val  
 225 230 235 240  
 Cys Asp Ala Leu Gly Thr Leu Ser Leu Phe Leu Pro Ala Ile Leu Gly  
 245 250 255  
 Val His Ala Val Leu Ile Met Ala Ile Leu Gly Leu Ile Ser Cys Val  
 260 265 270  
 Ile Asn Phe Val Lys Asp Tyr Ala Lys Ile Gly  
 275 280

<210> 756  
 <211> 114  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 756  
 Gln Phe Ile Leu Asn Leu Lys Val Leu Val Leu Ser Gly Asp Ile Met  
 1 5 10 15

Ala Pro Lys Lys Pro Asn Lys Lys Asn Val Ile Gln Arg Arg Pro Ser  
20 25 30  
Ala Glu Lys Arg Ile Leu Thr Ala Gln Lys Arg Glu Leu Ile Asn His  
35 40 45  
Ser Phe Lys Ser Lys Val Lys Thr Ile Val Lys Lys Phe Glu Ala Ser  
50 55 60  
Leu Lys Leu Asp Asp Thr Gln Ala Thr Leu Ser Asn Leu Gln Ser Val  
65 70 75 80  
Tyr Ser Val Val Asp Lys Ala Val Lys Arg Gly Ile Phe Lys Asp Asn  
85 90 95  
Lys Ala Ala Arg Ile Lys Ser Lys Ala Thr Leu Lys Val Asn Ala Arg  
100 105 110  
Ala Ser

<210> 757

<211> 407

<212> PRT

<213> Chlamydia pneumoniae

<400> 757

Tyr Lys Asp Leu Phe Phe Met Leu Leu Val Arg Lys Trp Leu His Thr  
1 5 10 15  
Cys Phe Lys Tyr Trp Ile Tyr Phe Leu Pro Val Val Thr Leu Leu Leu  
20 25 30  
Pro Leu Val Cys Tyr Pro Phe Leu Ser Ile Ser Gln Lys Ile Tyr Gly  
35 40 45  
Tyr Phe Val Phe Thr Thr Ile Ser Ser Leu Gly Trp Phe Phe Ala Leu  
50 55 60  
Arg Arg Arg Glu Asn Gln Leu Lys Thr Ala Ala Val Gln Leu Leu Gln  
65 70 75 80  
Thr Lys Ile Arg Lys Leu Thr Glu Asn Asn Glu Gly Leu Arg Gln Ile  
85 90 95  
Arg Glu Ser Leu Lys Glu His Gln Gln Glu Ser Ala Gln Leu Gln Ile  
100 105 110  
Gln Ser Gln Lys Leu Lys Asn Ser Leu Phe His Leu Gln Gly Leu Leu  
115 120 125  
Val Lys Thr Lys Gly Glu Gly Gln Lys Leu Glu Thr Leu Leu Leu His  
130 135 140  
Arg Thr Glu Glu Asn Arg Cys Leu Lys Met Gln Val Asp Ser Leu Ile  
145 150 155 160  
Gln Glu Cys Gly Glu Lys Thr Glu Glu Val Gln Thr Leu Asn Arg Glu  
165 170 175  
Leu Ala Glu Thr Leu Ala Tyr Gln Gln Ala Leu Asn Asp Glu Tyr Gln  
180 185 190  
Ala Thr Phe Ser Glu Gln Arg Asn Met Leu Asp Lys Arg Gln Ile Tyr  
195 200 205  
Ile Gly Lys Leu Glu Asn Lys Val Gln Asp Leu Met Tyr Glu Ile Arg  
210 215 220  
Asn Leu Leu Gln Leu Glu Ser Asp Ile Ala Glu Asn Ile Pro Ser Gln  
225 230 235 240  
Glu Ser Asn Ala Val Thr Gly Asn Ile Ser Leu Gln Leu Ser Ser Glu  
245 250 255  
Leu Lys Lys Ile Ala Phe Lys Ala Glu Asn Ile Glu Ala Ala Ser Ser  
260 265 270  
Leu Thr Ala Ser Arg Tyr Leu His Thr Asp Thr Ser Val His Asn Tyr  
275 280 285  
Ser Leu Glu Cys Arg Gln Leu Phe Asp Ser Leu Arg Glu Glu Asn Leu  
290 295 300  
Gly Met Leu Phe Val Tyr Ala Arg Gln Ser Gln Arg Ala Val Phe Ala  
305 310 315 320





Lys Ser Gln Glu Ala Lys Lys Glu Met Val Glu Ser Asn Leu Arg Leu  
 340 345 350  
 Val Ile Ser Ile Ala Lys Lys Tyr Thr Asn Arg Gly Leu Ser Phe Leu  
 355 360 365  
 Asp Leu Ile Gln Glu Gly Asn Met Gly Leu Met Lys Ala Val Glu Lys  
 370 375 380  
 Phe Glu Tyr Arg Arg Gly Tyr Lys Phe Ser Thr Tyr Ala Thr Trp Trp  
 385 390 395 400  
 Ile Arg Gln Ala Val Thr Arg Ala Ile Ala Asp Gln Ala Arg Thr Ile  
 405 410 415  
 Arg Ile Pro Val His Met Ile Glu Thr Ile Asn Lys Val Leu Arg Gly  
 420 425 430  
 Ala Lys Lys Leu Met Met Glu Thr Gly Lys Glu Pro Thr Pro Glu Glu  
 435 440 445  
 Leu Ala Glu Glu Leu Gly Leu Thr Pro Asp Arg Val Arg Glu Ile Tyr  
 450 455 460  
 Lys Ile Ala Gln His Pro Ile Ser Leu Gln Ala Glu Val Gly Glu Gly  
 465 470 475 480  
 Ser Glu Ser Ser Phe Gly Asp Phe Leu Glu Asp Thr Ala Val Glu Ser  
 485 490 495  
 Pro Ala Glu Ala Thr Gly Tyr Ser Met Leu Lys Asp Lys Met Lys Glu  
 500 505 510  
 Val Leu Lys Thr Leu Thr Asp Arg Glu Arg Phe Val Leu Ile His Arg  
 515 520 525  
 Phe Gly Leu Leu Asp Gly Lys Pro Lys Thr Leu Glu Glu Val Gly Ser  
 530 535 540  
 Ala Phe Asn Val Thr Arg Glu Arg Ile Arg Gln Ile Glu Ala Lys Ala  
 545 550 555 560  
 Leu Arg Lys Met Arg His Pro Ile Arg Ser Lys Gln Leu Arg Ala Phe  
 565 570 575  
 Leu Asp Leu Leu Glu Glu Glu Lys Thr Gly Thr Ser Lys Val Lys Ser  
 580 585 590  
 Leu Lys Ser Lys  
 595

<210> 759  
 <211> 142  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 759  
 Pro Cys Ile Lys Asn Ile Ala Leu Val Ile Ala Ile Glu Arg Tyr Gln  
 1 5 10 15  
 Leu Ile Ile Ser Lys Phe Arg Met Trp Leu Phe Leu Gly Cys Ser Val  
 20 25 30  
 Glu Glu Arg His Phe Lys Gln Pro Val Leu Ile Ser Val Thr Phe Ser  
 35 40 45  
 Tyr Asn Glu Val Pro Ser Ala Cys Leu Ser Asp Lys Leu Ser Asp Ala  
 50 55 60  
 Cys Cys Tyr Leu Glu Val Thr Ser Leu Ile Glu Glu Ile Ala Asn Thr  
 65 70 75 80  
 Lys Pro Tyr Ala Leu Ile Glu His Leu Ala Asn Glu Leu Phe Asp Ser  
 85 90 95  
 Leu Val Ile Ser Phe Gly Asp Lys Ala Ser Lys Ile Asp Leu Glu Val  
 100 105 110  
 Glu Lys Glu Arg Pro Pro Val Pro Asn Leu Leu Asn Pro Ile Lys Phe  
 115 120 125  
 Thr Ile Ser Lys Glu Leu Cys Pro Ser Pro Val Leu Ser Ala  
 130 135 140

<210> 760  
 <211> 452  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 760

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Arg Ala Met Ser Glu Pro Arg Phe Val Cys Leu Ser Leu Gly Ser Asn
 1          5          10          15
Leu Gly Asn Arg Phe Lys Asn Leu Gln Ile Ala Arg Thr Leu Leu Gly
          20          25          30
Glu Gln Ala Val Leu Gly Leu Arg Ser Ser Val Ile Leu Glu Thr Glu
          35          40          45
Ala Leu Leu Leu Pro Gly Ser Pro Pro Glu Trp Asp Leu Pro Tyr Phe
          50          55          60
Asn Ser Val Leu Val Gly Glu Thr Thr Leu Ser Leu Arg Glu Leu Leu
65          70          75          80
Val Thr Ile Lys Gln Ile Glu Lys Val Val Gly Arg Ala Glu Glu Ser
          85          90          95
Pro Pro Trp Ser Pro Arg Thr Ile Asp Val Asp Ile Leu Leu Tyr Gly
          100          105          110
Asp Glu Ser Phe Cys Cys Asp His Thr Glu Ile Thr Ile Pro Leu Ser
          115          120          125
Asn Leu Leu Ser Arg Pro Phe Leu Ile Ala Leu Ile Ala Ser Leu Cys
          130          135          140
Pro Tyr Arg Arg Phe Cys Thr Gln Gly Ser Pro Tyr His Asn Phe Thr
145          150          155          160
Phe Gly Glu Leu Ala His His Leu Pro Ser Pro Pro Gly Met Ile Arg
          165          170          175
Arg Ser Leu Ser Pro Asp Thr Met Leu Met Gly Val Val Asn Val Thr
          180          185          190
Asn Asp Ser Met Ser Asp Gly Gly Met Phe Leu Asp Pro Glu Lys Ala
          195          200          205
Val Ala Gln Ala Glu Lys Leu Phe Thr Glu Gly Ala Ala Val Ile Asp
          210          215          220
Phe Gly Ala Gln Ala Thr Asn Pro Lys Val Lys Gln Phe Leu Ser Val
225          230          235          240
Asp Gln Glu Trp Glu Arg Leu Glu Pro Val Leu Arg Leu Leu Lys Glu
          245          250          255
Thr Trp Ser Asn Arg Lys Gln Tyr Pro Ile Ile Ser Leu Asp Thr Phe
          260          265          270
Tyr Pro Glu Ile Ile Leu Arg Ala Met Asp Ile Tyr Pro Ile Gln Trp
          275          280          285
Ile Asn Asp Val Ser Gly Gly Ser Gln Ser Met Ala Glu Val Ala Arg
290          295          300
Asp Cys Glu Leu Ser Leu Val Met Asn His Ser Ser Ser Leu Pro Val
305          310          315          320
Asp Pro Lys Asn Ile Leu Ser Phe Ser Val Pro Ile Gly Glu Gln Leu
          325          330          335
Leu Ser Trp Gly Glu Lys Gln Leu Lys Met Phe Ser Asp Val Gly Leu
          340          345          350
Asn Ala Asn Gln Val Ile Phe Asp Pro Gly Ile Gly Phe Gly Lys Gly
          355          360          365
Ala Ala Gln Ser Leu Ala Thr Leu Tyr Glu Ile Ala Lys Phe Lys Arg
          370          375          380
Leu Gly Cys Pro Ile Leu Ile Gly His Ser Arg Lys Ser Phe Leu Ser
385          390          395          400
Leu Phe Gly Asn His Asp Pro Lys Asp Arg Asp Trp Glu Thr Val Gly
          405          410          415
Leu Ser Ile Leu Leu Gln Gln Gln Gly Val Asp Tyr Leu Arg Val His
          420          425          430

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Asn Val Ala Ala His Gln Lys Ala Leu Ser Val Ala Ala Cys Glu Ala  
 435 440 445  
 Cys Ala Pro Ile  
 450

<210> 761  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 761  
 Leu Leu Val Lys Pro Val His Pro Ser Asn Phe Glu Asn Pro Leu Gly  
 1 5 10 15  
 Val Glu Met Cys Lys Asn Arg Gly Val Arg Gly Ile Val Ala Cys Asp  
 20 25 30  
 Pro Arg Gly Val Ile Gly Leu Glu Gly Lys Leu Pro Trp His Tyr Pro  
 35 40 45  
 Glu Asp Leu Gln Phe Phe Ser Glu Thr Ile Gln Lys Phe Pro Ile Val  
 50 55 60  
 Met Gly Arg Lys Thr Trp Glu Thr Leu Pro Arg Lys Tyr Phe Val Asp  
 65 70 75 80  
 Arg Ala Val Val Val Phe Ser His Glu Lys Arg Gln Gly Val His Gly  
 85 90 95  
 Glu Ile Trp Val Thr Ser Leu Glu Glu Phe Leu Leu Leu Asp Leu Ser  
 100 105 110  
 Ser Pro Thr Phe Leu Ile Gly Gly Gly Glu Leu Tyr Ser Leu Phe Leu  
 115 120 125  
 Glu Asn Gln Ile Val Arg Asp Phe Phe Ile Ser His Ile Lys Lys Glu  
 130 135 140  
 Tyr Ala Gly Asp Thr Phe Phe Pro Leu Ser Leu Leu Glu Thr Trp Thr  
 145 150 155 160  
 Lys Thr Val Leu Arg Asp Thr Gln Lys Ile Thr Thr Cys Tyr Tyr Glu  
 165 170 175  
 Asn His His Ser Gln Asn Thr Lys Asn Ile Ser Leu  
 180 185

<210> 762  
 <211> 264  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 762  
 Arg His Gly Pro Lys Leu Cys Leu Glu Ile Pro Lys Arg Ser Gln Arg  
 1 5 10 15  
 Val Thr Met Lys Ile Thr Thr Val Lys Thr Pro Lys Ile Tyr Pro Tyr  
 20 25 30  
 Asp Asp Leu Tyr Ser Ile Leu Glu Ser Ser Leu Pro Lys Leu Asn Glu  
 35 40 45  
 Arg Ser Ile Val Val Ile Thr Ser Lys Ile Val Ser Leu Cys Glu Gly  
 50 55 60  
 Ala Val Val Glu Leu Glu Lys Val Ser Lys Asp Glu Leu Ile Lys Gln  
 65 70 75 80  
 Glu Ala Asp Ala Tyr Val Phe Val Glu Lys Tyr Gly Ile Tyr Leu Thr  
 85 90 95  
 Lys Lys Trp Gly Ile Leu Ile Pro Ser Ala Gly Ile Asp Glu Ser Asn  
 100 105 110  
 Val Glu Gly Tyr Phe Val Leu Tyr Pro Arg Asp Phe Leu Leu Ser Val  
 115 120 125  
 Asn Thr Leu Gly Asp Trp Leu Arg Asn Phe Tyr His Leu Glu His Cys  
 130 135 140

Gly Ile Ile Ile Ser Asp Ser His Thr Thr Pro Leu Arg Arg Gly Thr  
 145 150 155 160  
 Met Gly Leu Gly Leu Cys Trp Asn Gly Phe Phe Pro Leu Tyr Asn Tyr  
 165 170 175  
 Val Gly Lys Pro Asp Cys Phe Gly Arg Ala Leu Lys Met Thr Tyr Ser  
 180 185 190  
 Asn Leu Leu Asp Gly Leu Ser Ala Ala Val Leu Cys Met Gly Glu  
 195 200 205  
 Gly Asp Glu Gln Thr Pro Ile Ala Ile Ile Glu Glu Ala Pro Lys Ile  
 210 215 220  
 Thr Phe His Ser Ser Pro Thr Thr Leu Gln Asp Met Ser Thr Leu Ala  
 225 230 235 240  
 Ile Ala Glu Asp Glu Asp Leu Tyr Gly Pro Leu Leu Gln Ser Met Ala  
 245 250 255  
 Trp Glu Thr Pro Ala Pro Thr Ser  
 260

<210> 763  
 <211> 226  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 763  
 Gly Ile Met Thr Ser Trp Ile Glu Leu Leu Asp Lys Gln Ile Glu Asp  
 1 5 10 15  
 Gln His Met Leu Lys His Glu Phe Tyr Gln Arg Trp Ser Glu Gly Lys  
 20 25 30  
 Leu Glu Lys Gln Gln Leu Gln Ala Tyr Ala Lys Asp Tyr Tyr Leu His  
 35 40 45  
 Ile Lys Ala Phe Pro Cys Tyr Leu Ser Ala Leu His Ala Arg Cys Asp  
 50 55 60  
 Asp Leu Gln Ile Arg Arg Gln Ile Leu Glu Asn Leu Met Asp Glu Glu  
 65 70 75 80  
 Ala Gly Asn Pro Asn His Ile Asp Leu Trp Arg Gln Phe Ala Leu Ser  
 85 90 95  
 Leu Gly Val Ser Glu Glu Glu Leu Ala Asn His Glu Phe Ser Gln Ala  
 100 105 110  
 Ala Gln Asp Met Val Ala Thr Phe Arg Arg Leu Cys Asp Met Pro Gln  
 115 120 125  
 Leu Ala Val Gly Leu Gly Ala Leu Tyr Thr Tyr Glu Ile Gln Ile Pro  
 130 135 140  
 Gln Val Cys Val Glu Lys Ile Arg Gly Leu Lys Glu Tyr Phe Gly Val  
 145 150 155 160  
 Ser Ala Arg Gly Tyr Ala Tyr Phe Thr Val His Gln Glu Ala Asp Ile  
 165 170 175  
 Lys His Ala Ser Glu Glu Lys Glu Met Leu Gln Thr Leu Val Gly Arg  
 180 185 190  
 Glu Asn Pro Asp Ala Val Leu Gln Gly Ser Gln Glu Val Leu Asp Thr  
 195 200 205  
 Leu Trp Asn Phe Leu Ser Ser Phe Ile Asn Ser Thr Glu Pro Cys Ser  
 210 215 220  
 Cys Lys  
 225

<210> 764  
 <211> 380  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 764

Glu	Glu	Leu	Leu	Tyr	Phe	Ser	Arg	Phe	Ser	Glu	Lys	Gln	Asn	Tyr	Ser
1				5					10					15	
Leu	Gly	Asn	Met	Glu	Thr	Lys	Arg	Ser	Ile	Tyr	Met	Asn	Leu	Pro	Asp
		20						25				30			
Arg	Lys	Lys	Ala	Leu	Glu	Ala	Ala	Val	Ala	Tyr	Ile	Glu	Lys	Gln	Phe
		35					40					45			
Gly	Ala	Gly	Ser	Ile	Met	Ser	Leu	Gly	Arg	His	Ser	Ala	Thr	His	Glu
	50					55				60					
Ile	Ser	Thr	Ile	Lys	Thr	Gly	Ala	Leu	Ser	Leu	Asp	Leu	Ala	Leu	Gly
65				70						75				80	
Ile	His	Gly	Val	Pro	Lys	Gly	Arg	Val	Ile	Glu	Ile	Phe	Gly	Pro	Glu
			85					90					95		
Ser	Ser	Gly	Lys	Thr	Thr	Leu	Ala	Thr	His	Ile	Val	Ala	Asn	Ala	Gln
			100					105					110		
Lys	Met	Gly	Gly	Val	Ala	Ala	Tyr	Ile	Asp	Ala	Glu	His	Ala	Leu	Asp
		115						120				125			
Pro	Ser	Tyr	Ala	Ser	Leu	Ile	Gly	Val	Asn	Ile	Asp	Asp	Leu	Met	Ile
	130					135				140					
Ser	Gln	Pro	Asp	Cys	Gly	Glu	Asp	Ala	Leu	Ser	Ile	Ala	Glu	Leu	Leu
145				150						155				160	
Ala	Arg	Ser	Gly	Ala	Val	Asp	Val	Ile	Val	Ile	Asp	Ser	Val	Ala	Ala
			165					170					175		
Leu	Val	Pro	Lys	Ser	Glu	Leu	Glu	Gly	Asp	Ile	Gly	Asp	Val	His	Val
		180						185					190		
Gly	Leu	Gln	Ala	Arg	Met	Met	Ser	Gln	Ala	Leu	Arg	Lys	Leu	Thr	Ala
	195					200						205			
Thr	Leu	Ser	Arg	Ser	Gln	Thr	Cys	Ala	Val	Phe	Ile	Asn	Gln	Ile	Arg
	210				215						220				
Glu	Lys	Ile	Gly	Val	Ser	Phe	Gly	Asn	Pro	Glu	Thr	Thr	Thr	Gly	Gly
225				230						235				240	
Arg	Ala	Leu	Lys	Phe	Tyr	Ser	Ser	Ile	Arg	Leu	Asp	Ile	Arg	Arg	Ile
			245					250					255		
Gly	Ser	Ile	Lys	Gly	Ser	Asp	Asn	Ser	Asp	Ile	Gly	Asn	Arg	Ile	Lys
		260				265						270			
Val	Lys	Val	Ala	Lys	Asn	Lys	Leu	Ala	Pro	Pro	Phe	Arg	Ile	Ala	Glu
	275					280					285				
Phe	Asp	Ile	Leu	Phe	Asn	Glu	Gly	Ile	Ser	Ser	Ala	Gly	Cys	Ile	Leu
	290				295						300				
Asp	Leu	Ala	Val	Glu	Tyr	Asn	Ile	Ile	Glu	Lys	Lys	Gly	Ser	Trp	Phe
305				310						315				320	
Asn	Tyr	Gln	Glu	Lys	Lys	Leu	Gly	Gln	Gly	Arg	Glu	Phe	Val	Arg	Glu
			325					330					335		
Glu	Leu	Lys	Arg	Asn	Arg	Lys	Leu	Phe	Glu	Glu	Ile	Glu	Lys	Arg	Ile
		340				345						350			
Tyr	Asp	Val	Ile	Ala	Ala	Asn	Lys	Thr	Pro	Ser	Val	His	Ala	Asn	Glu
	355					360					365				
Thr	Pro	Gln	Glu	Val	Pro	Ala	Gln	Thr	Val	Glu	Ala				
	370					375					380				

<210> 765  
 <211> 183  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 765

Asn	Phe	Pro	Met	Thr	Asp	Pro	Lys	Ile	Glu	Lys	Ser	Ala	Leu	Arg	Lys
1				5					10					15	
Leu	Phe	Ile	Ser	Ile	Arg	Arg	Asp	Leu	Ser	Glu	Glu	Arg	Lys	His	Glu
			20					25					30		

Ala Ser Ser Ala Val Ala Ser Phe Val Arg Ser Phe Ser Lys Glu Ser  
           35                          40                          45  
 Val Val Leu Ser Phe Val Ser Phe Asn His Glu Ile Asp Met Gln Glu  
           50                          55                          60  
 Ala Asn Arg Ile Leu Ile Gln Lys Cys Thr Leu Ala Leu Pro Lys Ile  
 65                          70                          75                          80  
 Asp Gln Glu Asn Leu Tyr Pro Val Leu Ile Pro Ser Ile Asp Asp Leu  
                           85                          90                          95  
 Ile Ser Val Val His Pro Lys Asp Pro Phe Ser Lys Gln Thr Pro Ile  
                           100                          105                          110  
 Ser Ser Asp Lys Ile Thr His Val Leu Val Pro Gly Leu Ala Phe Asp  
                           115                          120                          125  
 Gln Gln Gly Tyr Arg Leu Gly Tyr Gly His Gly Phe Tyr Asp Arg Trp  
           130                          135                          140  
 Leu Ala Gln His Pro Tyr Pro Ser Ile Arg Thr Ile Gly Ile Gly Tyr  
 145                          150                          155                          160  
 Cys Glu Gln Lys Ile Asp Arg Leu Pro Gln Glu Ser His Asp Ile Pro  
                           165                          170                          175  
 Leu Ser Gln Ile Tyr Leu Cys  
                           180

<210> 766  
 <211> 432  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 766  
 Gly Tyr Lys Ser Met Asp Ile Lys Lys Leu Phe Cys Leu Phe Leu Cys  
 1                          5                          10                          15  
 Ser Ser Leu Ile Ala Met Ser Pro Ile Tyr Gly Lys Thr Gly Asp Tyr  
           20                          25                          30  
 Glu Lys Leu Thr Leu Thr Gly Ile Asn Ile Ile Asp Arg Asn Gly Leu  
           35                          40                          45  
 Ser Glu Thr Ile Cys Ser Lys Glu Lys Leu Lys Lys Tyr Thr Lys Val  
           50                          55                          60  
 Asp Phe Leu Ala Pro Gln Pro Tyr Gln Lys Val Met Arg Met Tyr Lys  
 65                          70                          75                          80  
 Asn Lys Arg Gly Asp Asn Val Ser Cys Leu Thr Ala Tyr His Thr Asn  
                           85                          90                          95  
 Gly Gln Ile Lys Gln Tyr Leu Glu Cys Leu Asn Asn Arg Ala Tyr Gly  
           100                          105                          110  
 Arg Tyr Arg Glu Trp His Val Asn Gly Asn Ile Lys Ile Gln Ala Glu  
           115                          120                          125  
 Val Ile Gly Gly Ile Ala Asp Leu His Pro Ser Ala Glu Ser Gly Trp  
           130                          135                          140  
 Leu Phe Asp Gln Thr Thr Phe Ala Tyr Asn Asp Glu Gly Ile Leu Glu  
 145                          150                          155                          160  
 Ala Ala Ile Val Tyr Glu Lys Gly Leu Leu Glu Gly Ser Ser Val Tyr  
                           165                          170                          175  
 Tyr His Thr Asn Gly Asn Ile Trp Lys Glu Cys Pro Tyr His Lys Gly  
           180                          185                          190  
 Val Pro Gln Gly Lys Phe Leu Thr Tyr Thr Ser Ser Gly Lys Leu Leu  
           195                          200                          205  
 Lys Glu Gln Asn Tyr Gln Gln Gly Lys Arg His Gly Leu Ser Ile Arg  
           210                          215                          220  
 Tyr Ser Glu Asp Ser Glu Glu Asp Val Leu Ala Trp Glu Glu Tyr His  
 225                          230                          235                          240  
 Glu Gly Arg Leu Leu Lys Ala Glu Tyr Leu Asp Pro Gln Thr His Glu  
                           245                          250                          255  
 Ile Tyr Ala Thr Ile His Glu Gly Asn Gly Ile Gln Ala Ile Tyr Gly  
           260                          265                          270

Lys Tyr Ala Val Ile Glu Thr Arg Ala Phe Tyr Arg Gly Glu Pro Tyr  
 275 280 285  
 Gly Lys Val Thr Arg Phe Asp Asn Ser Gly Thr Gln Ile Val Gln Thr  
 290 295 300  
 Tyr Asn Leu Leu Gln Gly Ala Lys His Gly Glu Glu Phe Phe Phe Tyr  
 305 310 315 320  
 Pro Glu Thr Gly Lys Pro Lys Leu Leu Leu Asn Trp His Glu Gly Ile  
 325 330 335  
 Leu Asn Gly Ile Val Lys Thr Trp Tyr Pro Gly Gly Thr Leu Glu Ser  
 340 345 350  
 Cys Lys Glu Leu Val Asn Asn Lys Lys Ser Gly Leu Leu Thr Ile Tyr  
 355 360 365  
 Tyr Pro Glu Gly Gln Ile Met Ala Thr Glu Glu Tyr Asp Asn Asp Leu  
 370 375 380  
 Leu Ile Lys Gly Glu Tyr Phe Arg Pro Gly Asp Arg His Pro Tyr Ser  
 385 390 395 400  
 Lys Ile Asp Arg Gly Cys Gly Thr Ala Val Phe Phe Ser Ser Ala Gly  
 405 410 415  
 Thr Ile Thr Lys Lys Ile Pro Tyr Gln Asp Gly Lys Pro Leu Leu Asn  
 420 425 430

<210> 767  
 <211> 205  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 767  
 Thr Thr Ile Tyr Ile Lys Leu Leu Gly Arg Leu Met Lys Lys Trp Ile  
 1 5 10 15  
 Ser Ile Leu Ile Leu Ser Phe Leu Ser Leu Leu Ser Ile Leu Pro Val  
 20 25 30  
 Leu Ala Ile Thr Ile Asn His Val Lys Ile Ser Gln Arg Trp Ser Asp  
 35 40 45  
 Leu Asn Ser Gln Ile Leu Thr Leu Lys Val Ile Arg Asp His Glu Asp  
 50 55 60  
 Gln Val Ile Lys His Asn Ala Arg Ile Ser Lys Asp Arg Asn Asn Leu  
 65 70 75 80  
 Ser Ile Glu Ser Leu Asn Ala Ser Cys Lys Gln Leu Arg Pro Leu Ser  
 85 90 95  
 Lys Glu Arg Glu Arg Leu Asn Lys Leu Asn Ser Asn Ser Leu Leu Ala  
 100 105 110  
 Gln Ser Lys Glu Val Trp Glu Arg Lys Arg Ala Leu Glu Lys Ser Asn  
 115 120 125  
 His Gln Leu Val Trp Asn Cys Glu Gln Met His Asn Asp Phe Ala Phe  
 130 135 140  
 Val Arg Leu Glu Gln Ala Thr Glu Met Asp Asn Glu Asp Ile Glu Ser  
 145 150 155 160  
 Leu Phe Ser Leu Phe Asn Pro Glu Asn Pro Val Ala Pro Leu Val Phe  
 165 170 175  
 Phe Thr Cys Trp Lys Met Thr Lys Gln Thr Thr Pro Leu Gly Asn Glu  
 180 185 190  
 Val Trp Leu Thr His Ala Glu Ala Ile Ser Arg Trp Ile  
 195 200 205

<210> 768  
 <211> 464  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 768

Ala Met Asn Phe Lys Leu Pro Val Tyr His Ile Gly Leu Thr Lys Ala  
1 5 10 15  
Glu Asn Asn Thr Ile Lys Ile Ala Ile Leu Gln Lys Thr Cys Lys Gly  
20 25 30  
Trp Ile Val Cys His Cys Glu Gln Ile Pro Glu Gly Lys Thr Trp Ser  
35 40 45  
Leu Pro Lys Lys Tyr Phe Ala Ala Pro Thr Thr Phe Ser Leu Gln Gly  
50 55 60  
Ser Asp Ile Leu Val Lys Ser Ser Ser Ser Ser Leu Lys Asn Arg Lys  
65 70 75 80  
Asn Ile Leu Lys Val Ala Leu Thr Asn Leu Glu Ala Ser Leu Ala Leu  
85 90 95  
Pro Trp Glu Ser Leu Ile Val Gln Pro Gln Leu Gly Lys Pro Thr Asp  
100 105 110  
Arg Gly Glu Thr Pro Leu Thr Leu Trp Ile Ala Gln Lys Asn Thr Leu  
115 120 125

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Lys Lys Glu Leu Ser Phe Leu Ser Gln Ala Gln Ile Phe Pro Asp Lys  
130 135 140  
Leu Ser Cys Arg Ala Ala Asp Ile Phe Phe Leu Ala Glu Gln Ser Pro  
145 150 155 160  
Leu Lys Ser Leu Pro Ala Tyr Leu Leu Ile Tyr Gly Gly Ser Glu Glu  
165 170 175  
Val Thr Cys Ile Phe Val Lys Asn His Ala Ile Ala Val Ala Arg Ser  
180 185 190  
Phe Ser Asn His Ser Thr Lys Lys Ser Cys Asp Asp Ile His Ala Thr  
195 200 205  
Leu Gln Tyr Ile Gln Glu Thr Phe Pro Gln Thr Val Leu Pro Ala Ile  
210 215 220  
His Val Ala Gln Ile Ser Pro Asn Leu Gln Lys Ile Leu Glu Gln Lys  
225 230 235 240  
Leu Ser Leu Pro Leu Val Val Cys Gln Ser Met Thr Tyr Gly Val Glu  
245 250 255  
Asp Glu Asp Trp Glu Ile Tyr Gly Asp Thr Ile Ala Ala Ala His His  
260 265 270  
Gly Ala Ser Arg Arg Pro Leu Thr Phe Pro Tyr Asp Ala Thr Ser Val  
275 280 285  
Ser Pro Ala Ala Gln Lys His Trp Leu Leu Arg Ser Ser Leu Leu Ile  
290 295 300  
Gly Lys Tyr Ala Leu Met Ala Thr Val Val Val Ser Leu Gly Ser Val  
305 310 315 320  
Leu Lys Leu Lys Ser Leu Ser Ser Ser Ala Ser Asn His Phe Ala Phe  
325 330 335  
Ala Cys Pro Glu Glu Gly Val Leu Pro Arg Ser Leu Lys Ala Ala Glu  
340 345 350  
Lys Thr Val Lys Ala Ile Gly Lys Lys Asn Ser Ala Ser Asn Tyr Pro  
355 360 365  
Leu Leu Pro Thr Ile Pro Thr Ser Glu Gln Thr Leu Lys Phe Leu Leu  
370 375 380  
Ala Leu Gly Lys Ser Ser Pro Ser Ile Lys Phe Ser Tyr Phe Ser Tyr  
385 390 395 400  
Thr Met Thr Ser Tyr Pro Ser Lys Asp Asn Pro Ser Leu Pro Tyr Ser  
405 410 415  
Ala Leu Val Glu Val Lys Gly Gln Gly Gln Pro Glu Asp Ile Pro Gln  
420 425 430  
Phe Leu Lys Lys Ile Ser Ser His Pro Lys Leu Gln His Val Ser Glu  
435 440 445  
Ser Leu Glu Asp Gln Arg Ser Phe Lys Leu Gln Phe Thr Leu Ser Ser  
450 455 460



<210> 769  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 769  
 Asn Ile Met Leu Ser Tyr Leu Leu Arg Thr Ala Ile Asn Val Tyr Ser  
 1 5 10 15  
 Phe Leu Ile Leu Ala Tyr Ile Phe Ala Ser Trp Val Pro Asp Cys Gln  
 20 25 30  
 Ser Ala Arg Trp Tyr Gln Leu Val Ser Lys Cys Val Asp Pro Phe Leu  
 35 40 45  
 Asn Phe Phe Arg Arg Phe Val Pro Arg Ile Gly Phe Ile Asp Pro Ser  
 50 55 60  
 Pro Phe Val Gly Leu Leu Cys Leu Gly Ile Leu Pro Phe Val Ile Leu  
 65 70 75 80  
 Arg Val Leu Arg Phe Ile Ile Leu Asn Ile Phe His Ser Pro Trp Leu  
 85 90 95  
 Leu Gln Tyr Leu  
 100

<210> 770  
 <211> 340  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 770  
 Tyr Phe Ser Phe Ser Met Ala Ala Pro Ile Phe Ile Lys Asn Ile Leu  
 1 5 10 15  
 Leu Arg Ser Ser Ile Val Tyr Ala Pro Leu Ala Gly Phe Ser Asp Tyr  
 20 25 30  
 Pro Tyr Arg Cys Met Ser Ala Leu Tyr Gln Pro Gly Leu Met Phe Cys  
 35 40 45  
 Glu Met Val Lys Val Glu Gly Ile Leu Tyr Ala Pro Glu Arg Thr Ser  
 50 55 60  
 Lys Leu Leu Asp Tyr Asn Glu Asn Met Arg Pro Ile Gly Ala Gln Leu  
 65 70 75 80  
 Cys Gly Ser Asn Pro Glu Thr Ser Gly Glu Ala Ala Lys Ile Leu Glu  
 85 90 95  
 Gly Leu Gly Phe Asp Leu Ile Asp Leu Asn Cys Gly Cys Pro Thr Asp  
 100 105 110  
 Lys Ile Thr Lys Asp Gly Ser Gly Ser Gly Leu Leu Lys Thr Pro Glu  
 115 120 125  
 Leu Ile Gly Arg Ile Leu Asp Lys Ile Ile Asn Ser Val Ser Ile Pro  
 130 135 140  
 Val Thr Val Lys Ile Arg Ser Gly Trp Asp Met Glu His Ile Asn Val  
 145 150 155 160  
 Glu Asp Thr Val Arg Ile Ile Arg Asp Ala Gly Ala Ser Ala Val Phe  
 165 170 175  
 Val His Gly Arg Thr Arg Ala Gln Gly Tyr His Gly Pro Ser Lys Gln  
 180 185 190  
 Glu Tyr Ile Ser Arg Ala Lys Ala Ala Ala Gly Lys Glu Phe Pro Val  
 195 200 205  
 Phe Gly Asn Gly Asp Ile Phe Ser Pro Glu Ala Ala Gln Ala Met Leu  
 210 215 220  
 Thr Thr Gly Cys Asp Gly Val Leu Val Ala Arg Gly Thr Leu Gly Ala  
 225 230 235 240  
 Pro Trp Ile Gly Lys Gln Ile Gln Asp Tyr Leu Thr Thr Gly Ser Tyr  
 245 250 255  
 Glu Lys Ile Pro Phe Ile Lys Arg Lys Ala Ala Phe Leu Glu His Met  
 260 265 270

Arg Leu Val Glu Asp Tyr Tyr Gln Ser Glu Thr Lys Phe Leu Ser Glu  
 275 280 285  
 Thr Arg Lys Leu Cys Gly His Tyr Leu Ile Ser Ala Ala Lys Val Arg  
 290 295 300  
 Phe Leu Arg Ser Ser Leu Ala Lys Ala Thr Ser Tyr Gln Glu Val Tyr  
 305 310 315 320  
 Gln Leu Val Asn Asp Tyr Glu Glu Ala Asp Asp Ser Ser Leu Glu Thr  
 325 330 335  
 Phe Val Lys Cys  
 340

<210> 771

<211> 881

<212> PRT

<213> Chlamydia pneumoniae

<400> 771

Ser Ile Gln Gly Pro His Ala Ile Arg Leu Met Lys Lys Ser Leu Ile  
 1 5 10 15  
 Ile Val Glu Ser Pro Ala Lys Ile Lys Thr Leu Gln Lys Leu Leu Gly  
 20 25 30  
 Ser Glu Phe Val Phe Ala Ser Ser Ile Gly His Ile Val Asp Leu Pro  
 35 40 45  
 Ala Lys Glu Phe Gly Ile Asp Val Asp His Asp Phe Glu Pro Gln Tyr  
 50 55 60  
 Gln Val Leu Pro Asp Lys Gln Glu Val Ile Asn His Ile Arg Lys Leu  
 65 70 75 80  
 Ala Ala Lys Cys Glu Lys Val Tyr Leu Ser Pro Asp Pro Asp Arg Glu  
 85 90 95  
 Gly Glu Ala Ile Ala Trp His Ile Ala Asn Gln Leu Pro Asp Ser Pro  
 100 105 110  
 Leu Ile Gln Arg Val Ser Phe Asn Ala Ile Thr Lys Asn Ala Val Thr  
 115 120 125  
 Glu Ala Leu Lys His Pro Arg Thr Ile Asp Met Ala Leu Val Asn Ala  
 130 135 140  
 Gln Gln Ala Arg Arg Leu Leu Asp Arg Ile Val Gly Tyr Lys Ile Ser  
 145 150 155 160  
 Pro Ile Leu Ser Arg Lys Leu Gln Gln Arg Ser Gly Ile Ser Ala Gly  
 165 170 175  
 Arg Val Gln Ser Val Ala Leu Lys Leu Val Val Asp Arg Glu Lys Ala  
 180 185 190  
 Ile Asp Ala Phe Val Pro Val Glu Tyr Trp Asn Leu Arg Val Leu Met  
 195 200 205  
 Gln Asp Pro Lys Thr Thr Lys Thr Phe Trp Ala His Leu Tyr Ala Val  
 210 215 220  
 Gln Gly Lys Lys Trp Glu Lys Glu Ile Pro Glu Gly Lys Thr Glu Asn  
 225 230 235 240  
 Asp Val Leu Leu Ile Asn Ser Glu Glu Lys Ala Arg His Tyr Ala Glu  
 245 250 255  
 Leu Leu Glu Lys Ser Ser Tyr Thr Ile Thr Arg Val Glu Ala Lys Ala  
 260 265 270  
 Lys Arg Arg Phe Ala Pro Pro Pro Phe Ile Thr Ser Thr Leu Gln Gln  
 275 280 285  
 Glu Ala Ser Arg His Phe Arg Phe Ser Ala Ser Arg Thr Met Ser Ile  
 290 295 300  
 Ala Gln Thr Leu Tyr Glu Gly Val Asp Leu Asp Ser Glu Asp Ser Thr  
 305 310 315 320  
 Gly Leu Ile Thr Tyr Met Arg Thr Asp Ser Val Arg Val Asp Pro Glu  
 325 330 335  
 Ala Leu Thr Thr Val Arg Glu Tyr Ile Gln Gln Thr Phe Gly Lys Glu  
 340 345 350

Tyr Leu Pro Glu Lys Ala Asn Val Tyr Thr Thr Lys Lys Met Thr Gln  
355 360 365  
Asp Ala His Glu Ala Ile Arg Pro Thr Asp Ile Asn Leu Thr Pro Asp  
370 375 380  
Lys Leu Lys Asn Lys Leu Ser Asp Asp Gln Phe Lys Val Tyr Asn Leu  
385 390 395 400  
Ile Trp Lys Arg Phe Val Ala Ser Gln Ile Thr Pro Ala Ile Tyr Asp  
405 410 415  
Thr Leu Ala Val Gln Ile Thr Thr Asp Thr Glu Ile Asp Leu Arg Ala  
420 425 430  
Ser Gly Ser Leu Leu Lys Phe Lys Gly Phe Leu Ala Val Tyr Glu Glu  
435 440 445  
Lys Gln Asp Asp Glu Asn Asp Gln Glu Glu Asp His Pro Leu Pro Pro  
450 455 460  
Leu His Ala Gln Asp Ala Leu Ile Lys Glu Glu Val Ser Gln Glu Gln  
465 470 475 480  
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Ala Phe Thr Lys Pro Leu Pro Arg Phe Thr Glu Ala Ser Leu Val Lys  
485 490 495  
Glu Leu Glu Lys Ser Gly Ile Gly Arg Pro Ser Thr Tyr Ala Thr Ile  
500 505 510  
Met Asn Lys Ile Gln Ser Arg Glu Tyr Thr Thr Lys Glu Asn Gln Arg  
515 520 525  
Leu Arg Pro Thr Glu Leu Gly Lys Ile Ile Ser Gln Phe Leu Glu Thr  
530 535 540  
Asn Phe Pro Arg Ile Met Asp Ile Gly Phe Thr Ala Leu Met Glu Asp  
545 550 555 560  
Glu Leu Glu Leu Ile Ala Asp Asn Lys Lys Pro Trp Lys Leu Leu Leu  
565 570 575  
Gln Glu Phe Trp Thr Thr Phe Leu Pro Val Val Ile Thr Ala Glu Lys  
580 585 590  
Glu Ala Val Ile Pro Arg Ile Leu Thr Asn Ile Glu Cys Ser Lys Cys  
595 600 605  
His Lys Gly Lys Leu Val Lys Ile Trp Ser Lys Asn Ser Tyr Phe Tyr  
610 615 620  
Gly Cys Ser Glu Tyr Pro Glu Cys Asp Tyr Arg Thr Ser Glu Glu Glu  
625 630 635 640  
Leu Ala Phe Asn Lys Glu Asp Tyr Ala Glu Asp Thr Pro Trp Asp Ser  
645 650 655  
Pro Cys Pro Leu Cys Gly Gly Val Met Lys Val Arg His Gly Arg Tyr  
660 665 670  
Gly Thr Phe Leu Gly Cys Glu Lys Tyr Pro Glu Cys Arg Gly Thr Ile  
675 680 685  
Ser Ile His Lys Lys Gly Glu Ile Glu Gln Glu Glu Pro Ile Pro  
690 695 700  
Cys Pro Ala Ile Gly Cys Asn Gly Lys Ile Phe Lys Lys Arg Ser Arg  
705 710 715 720  
Tyr Asn Lys Ile Phe Tyr Ser Cys Ser Glu Tyr Pro Glu Cys Ser Val  
725 730 735  
Ile Gly Asn Ser Ile Asp Ala Val Ile Thr Lys Tyr Ser Gly Thr Glu  
740 745 750  
Lys Ile Pro Tyr Lys Lys Lys Thr Pro Thr Lys Lys Lys Ser Ser Ala  
755 760 765  
Lys Thr Thr Lys Ala Ala Lys Thr Pro Ser Lys Lys Gly Lys Ala Lys  
770 775 780  
Ser Ser Val Lys Lys Ser Ser Glu Lys Lys Thr Gly Pro Leu Phe Leu  
785 790 795 800  
Pro Ser Pro Asp Leu Ala Lys Met Ile Gly Asn Glu Pro Val Ser Arg  
805 810 815  
Gly Glu Ala Thr Lys Lys Ile Trp Asp Tyr Ile Lys Glu His Gln Leu  
820 825 830

Gln Ala Pro Glu Asn Lys Lys Leu Leu Val Pro Asp Asn Asn Leu Ala  
 835 840 845  
 Thr Ile Ile Gly Pro Asn Pro Ile Asp Met Phe Gln Leu Ser Lys His  
 850 855 860  
 Leu Ser Gln His Leu Thr Lys Val Ser Asn Asp Glu Ser Ser Ala Ser  
 865 870 875 880  
 Ser

<210> 772  
 <211> 270  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 772  
 Lys Pro Arg Thr Arg Asn Val Glu Lys Leu Glu Phe Val Thr Ser Leu  
 1 5 10 15  
 Ser Ser Pro Asp Asp Asp Leu Ile Thr Phe Asn Lys Gln Gly Leu Ile  
 20 25 30  
 Ala Gly Pro Glu Glu Glu Lys Val Ala Phe Leu Val Arg Ser Asn Ala  
 35 40 45  
 Met Leu Asp Ala Gly Pro Glu Thr Pro Ala Ser Phe Pro Glu Ser Leu  
 50 55 60  
 Arg Glu Gln Phe Asp Ile Phe Pro Glu Tyr Val Glu Val Leu Tyr Ser  
 65 70 75 80  
 Asn Glu Gly Leu Asp Val Trp Glu Ala Gly Cys Thr Trp Ile Leu Asn  
 85 90 95  
 Asn Glu Val Thr Ile Gln Leu Arg Lys His His Arg Lys Ala Ser Arg  
 100 105 110  
 Trp Leu Gly Met Tyr Ser Arg Asp Glu Val Leu Ala His Glu Ala Val  
 115 120 125  
 His Ala Val Arg Met Lys Phe His Glu Pro Val Phe Glu Glu Val Leu  
 130 135 140  
 Ala Tyr Gln Thr Ser Arg Trp Gly Trp Arg Arg Phe Phe Gly Pro Leu  
 145 150 155 160  
 Phe Arg Ser Pro Gly Glu Ser Tyr Leu Leu Phe Phe Thr Ile Leu  
 165 170 175  
 Gly Leu Gly Ile Ser Leu Trp Tyr Pro Ala Gly Ile Leu Ile Met Leu  
 180 185 190  
 Val Leu Pro Met Tyr Phe Leu Met Arg Leu Cys Met Ala Gln Ser Tyr  
 195 200 205  
 Leu Tyr Arg Ala Met Lys Lys Ile Arg Lys Met Leu Gly Val Pro Pro  
 210 215 220  
 Leu Trp Val Leu Leu Arg Leu Thr Asp Lys Glu Ile Lys Met Phe Ala  
 225 230 235 240  
 Lys Glu Pro Ile Pro Val Leu Glu His Tyr Ala Arg Lys Arg Lys Leu  
 245 250 255  
 Glu Asn Val Arg Trp Lys Gln Ile Tyr Gln Ser Tyr Phe Val  
 260 265 270

<210> 773  
 <211> 456  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 773  
 Ile Phe Lys Gly Asn Ser Lys Arg Leu Tyr Asp Ser Ser Ala Leu Asp  
 1 5 10 15  
 Met Phe Gln Gln Lys Gln Lys Leu Ser Leu Lys Tyr Leu Pro Ser Leu  
 20 25 30

Arg Met Gln Gln Gly Leu Gln Met Leu Gln Ser Pro Leu Thr Glu Leu  
 35 40 45  
 Ser Ser Tyr Val Val Gln Glu Ile Ile Asp Asn Pro Phe Phe Asp Leu  
 50 55 60  
 Ser Ser Leu Glu Glu Glu Glu Trp Ser Pro Cys Tyr Arg Pro Thr Asn  
 65 70 75 80  
 Ser Thr Phe Ser Tyr Leu Asn Gln Thr Pro Gly Pro Gln Glu Ser Leu  
 85 90 95  
 Tyr Thr Arg Leu Leu Pro Gln Ile Glu Glu Ala Phe Ser Thr Ala Glu  
 100 105 110  
 Glu Arg Phe Ile Ala His Gln Ile Ala Gly Asn Leu Ser Asp Glu Gly  
 115 120 125  
 Leu Phe Leu Arg Asn Pro Glu Asp Phe Ala Gln Glu Leu Glu Leu Pro  
 130 135 140  
 Leu Glu Lys Ile His Lys Val Trp Asp Thr Ile Gln Asn Leu Ser Pro  
 145 150 155 160  
 Glu Gly Ile Ala Ser Pro Ser Leu Gln Ser Tyr Trp Met Lys Leu Leu  
 165 170 175  
 Arg Asn Ser Ser His Gln Gln Ala Tyr Ser Ile Val Arg Asp Cys Tyr  
 180 185 190  
 Pro Leu Met Thr Asn Cys Glu Phe Ala Pro Ile Met Lys Lys Phe Ser  
 195 200 205  
 Leu Ser Leu Ser Glu Leu Arg Asn Ile Leu Lys Lys Ala Leu Gly Ser  
 210 215 220  
 Ile Pro Trp Cys Pro Ala Ala Ala Cys Thr Val Lys Pro Met Val Ser  
 225 230 235 240  
 Thr Pro Leu Pro Asp Ile Tyr Leu Phe Tyr Ser Ser Gly Ser Trp Lys  
 245 250 255  
 Ile Glu Val Ser Thr Arg Gly Leu Pro Ser Ile Lys Leu Asn Lys Glu  
 260 265 270  
 Thr Phe His Phe Tyr Glu His Leu Pro Lys Glu Glu Gln Lys Asn Leu  
 275 280 285  
 Ser Gln Gln Ile Leu Ser Ala Lys Trp Leu Ile Lys Asn Leu Arg Lys  
 290 295 300  
 Arg Glu Gln Thr Leu Leu Gln Val Met Glu Thr Leu Leu Pro Lys Gln  
 305 310 315 320  
 Glu Asp Phe Leu Leu Gly Lys Ile Pro Ala Pro Tyr Pro Leu Gly Ile  
 325 330 335  
 Lys Asp Leu Ala Glu Asp Leu Ser Phe His Glu Ser Thr Ile Phe Arg  
 340 345 350  
 Ala Ile Glu Asn Lys Ala Val Ala Ala Pro Ile Gly Ile Phe Pro Leu  
 355 360 365  
 Lys His Leu Phe Pro Arg Gly Ile His Gln Asp Ser Ser His Ser Lys  
 370 375 380  
 Glu Asn Val Leu Gln Trp Ile Arg Gln Trp Ile Ala Thr Glu Gln Thr  
 385 390 395 400  
 Pro Leu Ser Asp Ser Val Ile Ser Asp Arg Ile Thr Ala Lys Gly Ile  
 405 410 415  
 Pro Cys Ala Arg Arg Thr Val Ala Lys Tyr Arg Ala Gln Leu Lys Ile  
 420 425 430  
 Leu Pro Ala Asn Lys Arg Lys Lys Leu Phe Tyr Ile Arg Ser Ser Asn  
 435 440 445  
 Ser His Phe Arg Asp Arg Gln Phe  
 450 455

<210> 774

<211> 644

<212> PRT

<213> Chlamydia pneumoniae

<400> 774

Lys Leu Gly Leu Ile Met Thr Cys Ile Ser Glu Leu Asn Glu Ala Gln  
1 5 10 15  
Arg Lys Ala Val Thr Ala Pro Leu Asn Pro Val Leu Val Leu Ala Gly  
20 25 30  
Ala Gly Ala Gly Lys Thr Arg Val Val Thr Tyr Arg Ile Leu His Leu  
35 40 45  
Ile Asn Gln Gly Ile Ala Pro Arg Glu Ile Leu Ala Val Thr Phe Thr  
50 55 60  
Asn Lys Ala Ala Arg Glu Leu Lys Glu Arg Ile Val Asn Gln Cys Ala  
65 70 75 80  
Ser Thr Asn Glu Phe Asp Val Pro Met Val Cys Thr Phe His Ser Leu  
85 90 95  
Gly Val Phe Ile Leu Arg Arg Ser Ile Asn Leu Leu Asn Arg Glu Asn  
100 105 110  
Asn Phe Thr Ile Tyr Asp Gln Ser Asp Ala Glu Lys Leu Ile Lys His  
115 120 125

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Ala Leu Gln Gln His Asn Leu Lys Pro Asn Leu Ala Ser Lys Ile Gln  
130 135 140  
Ala His Val Ser Gln Ala Lys Asn Arg Leu Leu Phe Pro Glu Asp Leu  
145 150 155 160  
Asp Pro Asn Asp Tyr Ile Asp Pro Val Val Ser Ile Tyr Gln Glu Tyr  
165 170 175  
Gln Lys Lys Leu Ile Glu Ala Asn Ala Leu Asp Phe Asp Asp Leu Leu  
180 185 190  
Phe Leu Thr Val Arg Leu Leu Arg Glu Ser Pro Glu Ala Gln Glu Leu  
195 200 205  
Tyr Asn Gln Leu Trp Lys Ala Leu Leu Ile Asp Glu Tyr Gln Asp Thr  
210 215 220  
Asn His Ala Gln Tyr Thr Leu Met Gln Leu Leu Ser Lys Gln His Arg  
225 230 235 240  
Asn Val Phe Ala Val Gly Asp Pro Asp Gln Ser Ile Tyr Ser Trp Arg  
245 250 255  
Gly Ala Asn Ile His Asn Ile Leu Asn Phe Glu Asn Asp Tyr Pro Asn  
260 265 270  
Ala Lys Val Leu Cys Leu Glu Glu Asn Tyr Arg Ser Tyr Gly Asn Ile  
275 280 285  
Leu Asn Ala Ala Asn Ala Leu Ile Lys Asn Asn Ala Ser Arg Leu Glu  
290 295 300  
Lys Glu Leu Arg Ser Val Lys Gly Pro Gly Glu Lys Ile Arg Leu Phe  
305 310 315 320  
Leu Gly Ser Thr Asp Arg Glu Glu Ala Asp Phe Val Ala Ala Glu Ile  
325 330 335  
Leu Gln Leu His Arg Val Gly Asn Ile Lys Leu Arg Asp Ile Cys Ile  
340 345 350  
Phe Tyr Arg Thr Asn Ser Gln Ser Arg Thr Phe Glu Asp Ala Leu Leu  
355 360 365  
Arg Arg Arg Ile Pro Tyr Glu Ile Ile Gly Gly Leu Ser Phe Tyr Lys  
370 375 380  
Arg Lys Glu Ile Gln Asp Ile Leu Ala Phe Leu Arg Ile Phe Ile Ser  
385 390 395 400  
Lys Ser Asp Ile Val Ala Phe Asp Arg Thr Val Asn Leu Pro Lys Arg  
405 410 415  
Gly Ile Gly Ser Thr Thr Ile Phe Ala Leu Thr Gln Tyr Ala Ile Ala  
420 425 430  
Gln Gly Leu Pro Ile Leu Lys Ala Cys Gln Gln Ala Leu Asp Thr Lys  
435 440 445  
Asp Val Lys Leu Ser Lys Lys Gln Gln Glu Gly Leu Gln Glu Tyr Leu  
450 455 460  
Ala Leu Phe Pro Gln Ile Glu His Ala Tyr Asn Thr Leu Ser Leu Arg  
465 470 475 480

Asp Phe Ile Glu Ser Val Val Arg Ile Thr Gly Tyr Leu Glu Ile Leu  
 485 490 495  
 Lys Glu Asp Ala Asp Thr Phe Lys Asp Arg Lys Ser Asn Leu Glu Glu  
 500 505 510  
 Leu Tyr His Lys Ala Leu Glu Ser Glu Gln Gln Asn Pro Lys Thr His  
 515 520 525  
 Leu Glu Leu Phe Leu Asp Asp Leu Ala Leu Lys Gly Ser Asp Asp Asp  
 530 535 540  
 Leu Asn Leu Thr Ala Asp Arg Val Asn Leu Met Thr Leu His Asn Gly  
 545 550 555 560  
 Lys Gly Leu Glu Phe Arg Val Ser Phe Leu Val Gly Leu Glu Glu Gln  
 565 570 575  
 Leu Leu Pro His Ala Asn Ser Leu Gly Gly Thr Tyr Glu Asn Ile Glu  
 580 585 590  
 Glu Glu Arg Arg Leu Cys Tyr Val Gly Ile Thr Arg Ala Gln Asp Leu  
 595 600 605  
 Leu Tyr Leu Thr Ala Ala Gln Val Arg Ser Leu Trp Gly Thr Val Arg  
 610 615 620  
 Met Met Lys Pro Ser Arg Phe Leu Lys Glu Ile Pro Lys Asp Tyr Met  
 625 630 635 640  
 Ile Gln Val Arg

<210> 775  
 <211> 237  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 775  
 Phe Met Gln Asn Ala Thr Ile Asp Gln Leu Pro Val Ser Trp Gln Glu  
 1 5 10 15  
 Gln Leu Pro Leu Cys Trp Arg Glu Gln Leu Lys Glu Glu Trp Ser Lys  
 20 25 30  
 Pro Tyr Met Gln Gln Leu Leu Ile Phe Leu Lys Gln Glu Tyr Lys Glu  
 35 40 45  
 His Thr Val Tyr Pro Glu Glu Asn Cys Val Phe Ser Ala Leu Arg Ser  
 50 55 60  
 Thr Pro Phe Asp Gln Val Arg Val Val Ile Leu Gly Gln Asp Pro Tyr  
 65 70 75 80  
 Pro Gly Lys Gly Gln Ala His Gly Leu Ser Phe Ser Val Pro Glu Gly  
 85 90 95  
 Gln Arg Leu Pro Pro Ser Leu Ile Asn Ile Phe Arg Glu Leu Lys Thr  
 100 105 110  
 Asp Leu Gly Ile Glu Asn His Lys Gly Cys Leu Gln Ser Trp Ala Asn  
 115 120 125  
 Gln Gly Ile Leu Leu Leu Asn Thr Val Leu Thr Val Arg Ala Gly Glu  
 130 135 140  
 Pro Phe Ser His Ala Gly Lys Gly Trp Glu Leu Phe Thr Asp Ala Ile  
 145 150 155 160  
 Val Thr Lys Leu Ile Gln Glu Arg Thr His Ile Ile Phe Val Leu Trp  
 165 170 175  
 Gly Ala Ala Ala Arg Lys Lys Cys Glu Leu Leu Phe Asn Ser Lys His  
 180 185 190  
 Gln His Ala Val Leu Ser Ser Pro His Pro Ser Pro Leu Ala Ala His  
 195 200 205  
 Arg Gly Phe Phe Gly Cys Ser His Phe Ser Lys Ile Asn Tyr Leu Leu  
 210 215 220  
 Asn Lys Leu Asn Lys Pro Met Ile Asn Trp Lys Leu Pro  
 225 230 235

<210> 776  
 <211> 81  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 776  
 Leu Glu Ala Pro Met Asn Glu Gly Ile His Ser Val Cys Phe Gln Lys  
 1 5 10 15  
 Thr Pro Arg Leu Thr Ala Lys Ser Val Val Ser Met Glu Met Leu Leu  
 20 25 30  
 Thr Thr Gln Gln Leu Pro Ser Ala Glu Gly Met Pro Ser Val Ala Asn  
 35 40 45  
 Leu Glu Ala Asp Phe Leu Arg Ala Glu Ala Leu Leu Ala Glu Met Arg  
 50 55 60  
 Glu Ile Arg Gly Cys Leu Glu Gln Ser Leu Arg Thr Leu Val Pro Ser  
 65 70 75 80  
 Glu

<210> 777  
 <211> 209  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 777  
 Glu Arg Phe Met Lys Ile Val Ile Ala Ser Ser His Gly Tyr Lys Ile  
 1 5 10 15  
 Arg Glu Thr Lys Thr Phe Leu Lys Arg Leu Gly Asp Phe Asp Ile Phe  
 20 25 30  
 Ser Leu Ser Asp Phe Pro Asp Tyr Lys Leu Pro Gln Glu Gln Gly Asp  
 35 40 45  
 Ser Ile Thr Ala Asn Ala Leu Thr Lys Gly Ile His Ala Ala Asn His  
 50 55 60  
 Leu Gly Cys Trp Val Ile Ala Asp Asp Thr Met Leu Arg Val Pro Ala  
 65 70 75 80  
 Leu Asn Gly Leu Pro Gly Pro Leu Ser Ala Asn Phe Ala Gly Val Gly  
 85 90 95  
 Ala Tyr Asp Lys Asp His Arg Lys Lys Leu Leu Asp Leu Met Ser Ser  
 100 105 110  
 Leu Glu Ser Leu Val Asp Arg Ser Ala Tyr Phe Glu Cys Cys Val Val  
 115 120 125  
 Leu Val Ser Pro Asn Gln Glu Ile Phe Lys Thr Tyr Gly Ile Cys Glu  
 130 135 140  
 Gly Tyr Ile Ser His Gln Glu Lys Gly Ser Ser Gly Phe Gly Tyr Asp  
 145 150 155 160  
 Pro Ile Phe Val Lys Tyr Asp Tyr Lys Gln Thr Phe Ala Glu Leu Ser  
 165 170 175  
 Glu Asp Val Lys Asn Gln Val Ser His Arg Ala Lys Ala Leu Gln Lys  
 180 185 190  
 Leu Ala Pro His Leu Gln Ser Leu Phe Glu Lys His Leu Leu Thr Arg  
 195 200 205  
 Asp

<210> 778  
 <211> 436  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 778  
 Phe Ile Phe Val Leu Lys Asn Phe Tyr Asp Cys Leu Leu Met Phe Phe  
 1 5 10 15  
 Gln Phe Leu Ser Phe Thr Met Lys Lys Ile Phe Tyr Ser Phe Val Leu  
 20 25 30  
 Leu Ser Cys Ile Phe Pro Tyr Val Gly Cys Ala Gln Val Phe Val Gly  
 35 40 45  
 Leu Asp Arg Ile Phe Ser Glu Gly Glu Tyr Thr Arg Cys Ile Gln Gly  
 50 55 60  
 Lys Lys Ile Ala Leu Ile Ser His Ser Ala Ala Ile Asn Ser Arg Gly  
 65 70 75 80  
 Gln Asp Ala Leu Ser Val Phe Tyr Ser Arg Lys His Asp Cys Thr Val  
 85 90 95  
 Glu Ile Leu Cys Thr Leu Glu His Gly Tyr Tyr Gly Ala Thr Pro Thr  
 100 105 110  
 Glu Thr Val Gly Asn Gln Pro Ser Arg Tyr Pro Asn Leu Arg Ser Val  
 115 120 125  
 Ser Leu Tyr Gly Val Lys Glu Val Pro Lys Glu Val Ala Glu His Cys  
 130 135 140  
 Asp Val Phe Val Tyr Asp Val Gln Asp Ile Gly Val Arg Ser Tyr Ser  
 145 150 155 160  
 Phe Val Thr Val Leu Met Gln Ile Val Lys Ala Ser Glu Arg Tyr Gly  
 165 170 175  
 Lys Gln Leu Ile Val Leu Asp Arg Pro Asn Pro Met Gly Gly Arg Ile  
 180 185 190  
 Val Asp Gly Pro Leu Pro Asn Pro Thr Thr Ser Gly Ser Leu Ala Ile  
 195 200 205  
 Pro Tyr Cys Tyr Gly Met Thr Pro Gly Glu Leu Ala Leu Phe Phe Lys  
 210 215 220  
 Lys Thr Tyr Ala Pro Asn Ala Asn Val Val Val Ile Pro Met Lys Gly  
 225 230 235 240  
 Trp Asn Arg Ser Met Thr Phe Asp Glu Thr Gly Leu Ile Trp Met Pro  
 245 250 255  
 Thr Ser Pro Gln Met Pro Asp Pro Gln Ser Pro Phe Phe Tyr Ala Ala  
 260 265 270  
 Thr Gly Ile Leu Gly Ala Leu Ser Val Ala Ser Ile Gly Val Gly Tyr  
 275 280 285  
 Thr Leu Pro Phe Lys Val Leu Gly Ala Pro Trp Met Asp Gly Glu Lys  
 290 295 300  
 Val Ala Asp Glu Leu Asn Arg Met Lys Leu Pro Gly Val Leu Phe Leu  
 305 310 315 320  
 Pro Phe Phe Tyr Glu Pro Phe Phe Gly Lys Tyr Lys Met Glu Met Cys  
 325 330 335  
 Ser Gly Val Leu Leu Val Leu Gln Asp Pro Lys Ile Phe Tyr Pro Val  
 340 345 350  
 Glu Thr Gln Cys Thr Ile Trp Gly Val Leu Lys Ala Leu Tyr Pro Lys  
 355 360 365  
 Gln Val Glu Gln Thr Leu Lys Ser Ile Glu Arg Ile Pro Ala Arg Arg  
 370 375 380  
 Ser Ser Ile Cys Asn Leu Phe Gly Gly Asp Glu Phe Leu Ser Ile Ser  
 385 390 395 400  
 His Lys Glu Arg Tyr Ile Val Trp Pro Leu Arg Arg Leu Cys Lys Glu  
 405 410 415  
 Ser Arg Glu Ser Phe His Gln Leu Arg Ser Ser Cys Leu Leu Ser Glu  
 420 425 430  
 Tyr Ala Glu Ser  
 435

<210> 779  
 <211> 531  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 779  
 Thr Ser Glu Asp Arg Val Val Trp Val Phe Lys Ser Gln Phe Glu Gly  
 1 5 10 15  
 Leu Ser Ala Leu Lys Arg Gly Val His Ala Leu Thr Lys Ala Val Thr  
 20 25 30  
 Pro Ala Phe Gly Pro Arg Gly Tyr Asn Val Val Ile Lys Lys Gly Lys  
 35 40 45  
 Ala Pro Ile Val Leu Thr Lys Asn Gly Ile Arg Ile Ala Lys Glu Ile  
 50 55 60  
 Ile Leu Gln Asp Ala Phe Glu Ser Leu Gly Val Lys Leu Ala Lys Glu  
 65 70 75 80  
 Ala Leu Leu Lys Val Val Glu Gln Thr Gly Asp Gly Ser Thr Thr Ala  
 85 90 95  
 Leu Val Val Ile Asp Ala Leu Phe Thr Gln Gly Leu Lys Gly Ile Ala  
 100 105 110  
 Ala Gly Leu Asp Pro Gln Glu Ile Lys Ala Gly Ile Leu Leu Ser Val  
 115 120 125  
 Glu Met Val Tyr Gln Gln Leu Gln Arg Gln Ala Ile Glu Leu Gln Ser  
 130 135 140  
 Pro Lys Asp Val Leu His Val Ala Met Val Ala Ala Asn His Asp Val  
 145 150 155 160  
 Thr Leu Gly Thr Val Val Ala Thr Val Ile Ser Gln Ala Asp Leu Lys  
 165 170 175  
 Gly Val Phe Ser Ser Lys Asp Ser Gly Ile Ser Lys Thr Arg Gly Leu  
 180 185 190  
 Gly Lys Arg Val Lys Ser Gly Tyr Leu Ser Pro Tyr Phe Val Thr Arg  
 195 200 205  
 Pro Glu Thr Met Asp Val Val Trp Glu Glu Ala Leu Val Leu Ile Leu  
 210 215 220  
 Ser His Ser Leu Val Ser Leu Ser Glu Glu Leu Ile Arg Tyr Leu Glu  
 225 230 235 240  
 Leu Ile Ser Glu Gln Asn Thr His Pro Leu Val Ile Ile Ala Glu Asp  
 245 250 255  
 Phe Asp Gln Asn Val Leu Arg Thr Leu Ile Leu Asn Lys Leu Arg Asn  
 260 265 270  
 Gly Leu Pro Val Cys Ala Val Lys Ala Pro Gly Ser Arg Glu Leu Arg  
 275 280 285  
 Gln Val Val Leu Glu Asp Leu Ala Ile Leu Thr Gly Ala Thr Leu Ile  
 290 295 300  
 Gly Gln Glu Ser Glu Asn Cys Glu Ile Pro Val Ser Leu Asp Val Leu  
 305 310 315 320  
 Gly Arg Val Lys Gln Val Met Ile Thr Lys Glu Thr Phe Thr Phe Leu  
 325 330 335  
 Glu Gly Gly Gly Asp Ala Glu Ile Ile Gln Ala Arg Lys Gln Glu Leu  
 340 345 350  
 Cys Leu Ala Ile Ala Arg Ser Thr Ser Glu Ser Glu Cys Gln Glu Leu  
 355 360 365  
 Glu Glu Arg Leu Ala Ile Phe Ile Gly Ser Ile Pro Gln Val Gln Ile  
 370 375 380  
 Thr Ala Asp Thr Asp Thr Glu Gln Arg Glu Arg Gln Phe Gln Leu Glu  
 385 390 395 400  
 Ser Ala Leu Arg Ala Thr Lys Ala Ala Met Lys Gly Gly Ile Val Pro  
 405 410 415  
 Gly Gly Gly Val Ala Phe Leu Arg Ala Ala His Ala Ile Glu Val Pro  
 420 425 430

Ala Asn Leu Ser Ser Gly Met Thr Phe Gly Phe Glu Thr Leu Leu Gln  
 435 440 445  
 Ala Val Arg Thr Pro Leu Lys Val Leu Ala Gln Asn Cys Gly Arg Ser  
 450 455 460  
 Ser Glu Glu Val Ile His Thr Ile Leu Ser His Glu Asn Pro Arg Phe  
 465 470 475 480  
 Gly Tyr Asn Gly Met Thr Asp Thr Phe Glu Asp Leu Val Asp Ala Gly  
 485 490 495  
 Ile Cys Asp Pro Leu Ile Val Thr Thr Ser Ser Leu Lys Cys Ala Val  
 500 505 510  
 Ser Val Ser Cys Leu Leu Leu Thr Ser Ser Phe Phe Ile Ser Ser Arg  
 515 520 525  
 Thr Lys Thr  
 530

<210> 780

<211> 231

<212> PRT

<213> Chlamydia pneumoniae

<400> 780

Ala Pro Val Ala Gln Ser Asp Arg Val Pro Gly Tyr Glu Pro Gly Gly  
 1 5 10 15  
 Gln Arg Phe Glu Ser Ser Leu Val Arg Asn Asn Lys Arg Val Glu Glu  
 20 25 30  
 Glu Val Phe Met Thr Leu Ser Leu Val Gly Lys Glu Ala Pro Asp Phe  
 35 40 45  
 Val Ala Gln Ala Val Val Asn Gly Glu Thr Cys Thr Val Ser Leu Lys  
 50 55 60  
 Asp Tyr Leu Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe  
 65 70 75 80  
 Thr Tyr Val Cys Pro Thr Glu Leu His Ala Phe Gln Asp Ala Leu Gly  
 85 90 95  
 Glu Phe His Thr Arg Gly Ala Glu Val Ile Gly Cys Ser Val Asp Asp  
 100 105 110  
 Ile Ala Thr His Gln Gln Trp Leu Ala Thr Lys Lys Lys Gln Gly Gly  
 115 120 125  
 Ile Glu Gly Ile Thr Tyr Pro Leu Leu Ser Asp Glu Asp Lys Val Ile  
 130 135 140  
 Ser Arg Ser Tyr His Val Leu Lys Pro Glu Glu Glu Leu Ser Phe Arg  
 145 150 155 160  
 Gly Val Phe Leu Ile Asp Lys Gly Gly Ile Ile Arg His Leu Val Val  
 165 170 175  
 Asn Asp Leu Pro Leu Gly Arg Ser Ile Glu Glu Glu Leu Arg Thr Leu  
 180 185 190  
 Asp Ala Leu Ile Phe Phe Glu Thr Asn Gly Leu Val Cys Pro Ala Asn  
 195 200 205  
 Trp His Glu Gly Glu Arg Ala Met Ala Pro Asn Glu Glu Gly Leu Gln  
 210 215 220  
 Asn Tyr Phe Gly Thr Ile Asp  
 225 230

<210> 781

<211> 136

<212> PRT

<213> Chlamydia pneumoniae

<400> 781

Arg Phe Asp Leu Ile Phe Gln Met Lys Phe Thr Val Ala Leu Phe Gly  
 1 5 10 15

Glu Ala Glu Lys Gly Ser Tyr Asp Thr Ala Tyr Phe Cys Arg Ser Leu  
                   20                  25                  30  
 Val Asp Leu His Asn Tyr Leu Gly Asp Val Ser Ser Pro Gly Ile Thr  
                   35                  40                  45  
 Leu Ala Ile Lys Thr Leu Leu Ser Asp Tyr Asn Val Val Tyr Phe Arg  
                   50                  55                  60  
 Val Arg Glu Glu Gly Tyr Cys Val Asp Ser Tyr Phe Phe Gly Leu His  
                   65                  70                  75                  80  
 Phe Leu Asn Thr Gln Thr Thr Leu Lys Asn Ile Ile Ala Ile Gly Leu  
                   85                  90                  95  
 Pro Gly Val Gly Asn Gln His Ile Ile Glu Ala Ser Arg Ser Leu Cys  
                   100                  105                  110  
 Gln Lys His Asn Ser Leu Leu Leu Phe Phe Asp His Asp Leu Tyr Asp  
                   115                  120                  125  
 Leu Leu Thr Phe Asn Gln Pro Phe  
                   130                  135

<210> 782  
 <211> 217  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 782  
 His Gly Asn Lys Ile Ala Val Gln Ser Leu Arg Phe Met His Ala Lys  
   1                  5                  10                  15  
 Leu Ser Phe Phe Ile Leu Leu Ser Leu Leu Phe Ser Gly Ile Asp Cys  
                   20                  25                  30  
 Ser Arg Leu His Ala Ala Gly Arg Ser Pro Ser Leu Gln Gly Val Leu  
                   35                  40                  45  
 Ala Glu Ile Glu Asp Ile Ser Ala Lys Leu Ala Ser His Glu Val Glu  
                   50                  55                  60  
 Ile Val Met Leu Ser Glu Arg Leu Asp Glu Gln Asp Ser Lys Cys Gln  
                   65                  70                  75                  80  
 Lys Trp Thr Ala Ala Lys Pro Glu Thr Leu Ala Gln Lys Ile Arg Glu  
                   85                  90                  95  
 Leu Glu Ser Asp Gln Lys Ala Leu Ala Lys Thr Leu Ala Val Leu Thr  
                   100                  105                  110  
 Thr Ser Val Lys Asp Leu Gln Thr Asn Leu Gln Ser Lys Leu Gln Glu  
                   115                  120                  125  
 Ile Gln Lys Asp His Arg Ala Leu Ala Gln Asp Leu Arg Leu Val Arg  
                   130                  135                  140  
 Arg Ser Leu Leu Ala Leu Val Asp Ser Ser Ser Pro Gly Ala Tyr Ala  
                   145                  150                  155                  160  
 Asp Phe Ser Asp Pro Val Pro Glu Asn Ile Tyr Ile Val Arg Glu Gly  
                   165                  170                  175  
 Asp Ser Leu Ser Lys Ile Ala Lys Lys Tyr Lys Leu Ser Val Thr Glu  
                   180                  185                  190  
 Leu Lys Lys Ile Asn Lys Leu Asp Ser Asp Ala Ile Tyr Ala Gly Gln  
                   195                  200                  205  
 Arg Leu Cys Leu Gln Arg Asn Lys Gln  
                   210                  215

<210> 783  
 <211> 218  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 783  
 Gln Asn Cys Tyr Arg Ser Arg Arg Lys Thr Val Pro Leu Leu Gly Cys  
   1                  5                  10                  15

Phe Pro Ser Ala Thr Asp Lys Glu Asn Thr Met Asn Ile His Ser Leu  
 20 25 30  
 Trp Lys Leu Cys Thr Leu Leu Ala Leu Leu Ala Leu Pro Ala Cys Ser  
 35 40 45  
 Leu Ser Pro Asn Tyr Gly Trp Glu Asp Ser Cys Asn Thr Cys His His  
 50 55 60  
 Thr Arg Arg Lys Lys Pro Ser Ser Phe Gly Phe Val Pro Leu Tyr Thr  
 65 70 75 80  
 Glu Glu Asp Phe Asn Pro Asn Phe Thr Phe Gly Glu Tyr Asp Ser Lys  
 85 90 95  
 Glu Glu Lys Gln Tyr Lys Ser Ser Gln Val Ala Ala Phe Arg Asn Ile  
 100 105 110  
 Thr Phe Ala Thr Asp Ser Tyr Thr Ile Lys Gly Glu Glu Asn Leu Ala  
 115 120 125  
 Ile Leu Thr Asn Leu Val His Tyr Met Lys Lys Asn Pro Lys Ala Thr  
 130 135 140  
 Leu Tyr Ile Glu Gly His Thr Asp Glu Arg Gly Ala Ala Ser Tyr Asn  
 145 150 155 160  
 Leu Ala Leu Gly Ala Arg Arg Ala Asn Ala Ile Lys Glu His Leu Arg  
 165 170 175  
 Lys Gln Gly Ile Ser Ala Asp Arg Leu Ser Thr Ile Ser Tyr Gly Lys  
 180 185 190  
 Glu His Pro Leu Asn Ser Gly His Asn Glu Leu Ala Trp Gln Gln Asn  
 195 200 205  
 Arg Arg Thr Glu Phe Lys Ile His Ala Arg  
 210 215

<210> 784  
 <211> 435  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 784  
 Gly Asp Ile Gly Met Leu Arg Gln Leu Cys Phe Gln Val Phe Phe Phe  
 1 5 10 15  
 Cys Phe Ala Ser Leu Val Tyr Ala Glu Leu Glu Val Val Val Arg  
 20 25 30  
 Ser Glu His Ile Thr Leu Pro Ile Glu Val Ser Cys Gln Thr Asp Thr  
 35 40 45  
 Lys Asp Pro Lys Ile Gln Lys Tyr Leu Ser Ser Leu Thr Glu Ile Phe  
 50 55 60  
 Cys Lys Asp Ile Ala Leu Gly Asp Cys Leu Gln Pro Thr Ala Ala Ser  
 65 70 75 80  
 Lys Glu Ser Ser Ser Pro Leu Ala Ile Ser Leu Arg Leu His Val Pro  
 85 90 95  
 Gln Leu Ser Val Val Leu Leu Gln Ser Ser Lys Thr Pro Gln Thr Leu  
 100 105 110  
 Cys Ser Phe Thr Ile Ser Gln Asn Leu Ser Val Asp Arg Gln Lys Ile  
 115 120 125  
 His His Ala Ala Asp Thr Val His Tyr Ala Leu Thr Gly Ile Pro Gly  
 130 135 140  
 Ile Ser Ala Gly Lys Ile Val Phe Ala Leu Ser Ser Leu Gly Lys Asp  
 145 150 155 160  
 Gln Lys Leu Lys Gln Gly Glu Leu Trp Thr Thr Asp Tyr Asp Gly Lys  
 165 170 175  
 Asn Leu Ala Pro Leu Thr Thr Glu Cys Ser Leu Ser Ile Thr Pro Lys  
 180 185 190  
 Trp Val Gly Val Gly Ser Asn Phe Pro Tyr Leu Tyr Val Ser Tyr Lys  
 195 200 205  
 Tyr Gly Val Pro Lys Ile Phe Leu Gly Ser Leu Glu Asn Thr Glu Gly  
 210 215 220

Lys Lys Val Leu Pro Leu Lys Gly Asn Gln Leu Met Pro Thr Phe Ser  
 225 230 235 240  
 Pro Arg Lys Lys Leu Leu Ala Phe Val Ala Asp Thr Tyr Gly Asn Pro  
 245 250 255  
 Asp Leu Phe Ile Gln Pro Phe Ser Leu Thr Ser Gly Pro Met Gly Arg  
 260 265 270  
 Pro Arg Arg Leu Leu Asn Glu Asn Phe Gly Thr Gln Gly Asn Pro Ser  
 275 280 285  
 Phe Asn Pro Glu Gly Ser Gln Leu Val Phe Ile Ser Asn Lys Asp Gly  
 290 295 300  
 Arg Pro Arg Leu Tyr Ile Met Ser Leu Asp Pro Glu Pro Gln Ala Pro  
 305 310 315 320  
 Arg Leu Leu Thr Lys Lys Tyr Arg Asn Ser Ser Cys Pro Ala Trp Ser  
 325 330 335  
 Pro Asp Gly Lys Lys Ile Ala Phe Cys Ser Val Ile Lys Gly Val Arg  
 340 345 350  
 Gln Ile Cys Ile Tyr Asp Leu Ser Ser Gly Glu Asp Tyr Gln Leu Thr  
 355 360 365  
 Thr Ser Pro Thr Asn Lys Glu Ser Pro Ser Trp Ala Ile Asp Ser Arg  
 370 375 380  
 His Leu Val Phe Ser Ala Gly Asn Ala Glu Glu Ser Glu Leu Tyr Leu  
 385 390 395 400  
 Ile Ser Leu Val Thr Lys Lys Thr Asn Lys Ile Ala Ile Gly Val Gly  
 405 410 415  
 Glu Lys Arg Phe Pro Ser Trp Gly Ala Phe Pro Gln Gln Pro Ile Lys  
 420 425 430  
 Arg Thr Leu  
 435

<210> 785

<211> 263

<212> PRT

<213> Chlamydia pneumoniae

<400> 785

Ile Met Met Lys Tyr Leu Pro Tyr Ile Ala Ile Thr Ala Cys Ile His  
 1 5 10 15  
 Gly Gly Ile Leu Leu Val Phe Ala Ser Pro Leu Pro Lys Lys Arg  
 20 25 30  
 Leu Gln Pro Lys Ala Phe Gln Glu Lys Leu Val Thr Ile Gln Pro Lys  
 35 40 45  
 Pro Pro Val Pro Thr Pro Ser Val Val Val Asp Pro Ala Lys Thr Ile  
 50 55 60  
 Arg Pro Ser Val Ala Thr Gln Pro Gln Lys Gln Ala Lys Cys Ser Pro  
 65 70 75 80  
 Pro Gln Glu Asn Val Gln Lys Ala Leu Gln Lys Pro Ile Pro Lys Val  
 85 90 95  
 Ile Lys Thr Glu Pro Pro Lys Pro Ser Pro Ala Pro Thr Val Ala Lys  
 100 105 110  
 Lys Thr Thr Ala Thr Glu Lys Pro Pro Ser Thr Thr Lys Lys Asn  
 115 120 125  
 Thr Gln Leu Ser Lys Thr Gln Leu Gln Thr Leu Ser Glu Val Ala Gln  
 130 135 140  
 Ala Leu Ser Leu His Val Asp Lys Ile Glu Lys Ser Glu Thr Ser Leu  
 145 150 155 160  
 Lys Asn Ile Ser Trp Pro Ser Thr Ala Gln Leu Thr Met His Ser Glu  
 165 170 175  
 Leu Lys Ala Thr Gln Glu Asp Glu Leu Cys Glu Leu Phe Arg Thr His  
 180 185 190  
 Ile Ala Leu Pro Ser Lys Gly Tyr Val Arg Ile Lys Leu Val Leu Ser  
 195 200 205

Pro Asn Gly Glu Ile Gln Glu Cys Ser Phe Leu Ser Glu Val Ser Ala  
 210 215 220  
 Ala Asp Lys Gln Leu Leu Thr Gln Arg Ile Gln Ala Leu Pro Phe Gln  
 225 230 235 240  
 Lys Phe Leu Glu Lys Tyr Lys Val Ser Lys Asn Ile Ser Phe His Ile  
 245 250 255  
 Lys Leu Val Ser Asn Glu Ser  
 260

<210> 786  
 <211> 156  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 786  
 Asp Arg Ala Asp Ser Ile Phe Thr Thr Glu Phe Tyr Arg Ser Gln Ile  
 1 5 10 15  
 Pro Gln Tyr Lys Leu Met Lys Tyr Arg Phe Thr Glu Glu Ile Glu Glu  
 20 25 30  
 Glu Pro Leu Val Asn Leu Thr Pro Leu Ile Asp Ile Val Phe Val Ile  
 35 40 45  
 Leu Met Ala Phe Ile Val Ala Val Pro Leu Ile Lys Leu Asp Ser Ile  
 50 55 60  
 Ala Leu Ala Pro Gly Thr Gln Glu Gln Glu Val Leu Ser Ser Glu Asn  
 65 70 75 80  
 Asp Ser Ile Ala Val Ile Lys Val Phe Ala Asp His Ser Leu Thr Leu  
 85 90 95  
 Asn Glu His Pro Ile Thr Leu Gln Glu Leu Thr Val Arg Leu Thr Leu  
 100 105 110  
 Leu His Lys Ala Tyr Pro Glu Lys Thr Pro Leu Leu Leu Gln Asp Gly  
 115 120 125  
 Glu Thr Ser Phe Arg Thr Tyr Gln Asn Val Lys Asn Ala Ile Glu Ala  
 130 135 140  
 Ala Gly Phe His Glu Leu His Val Ala Leu Gln Asn  
 145 150 155

<210> 787  
 <211> 248  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 787  
 Asp His Leu Tyr Phe Glu Thr Leu Ser Val Asn Lys Asp Phe Tyr Ser  
 1 5 10 15  
 Met Val His Phe Ser His Asn Pro Ile Ile Gln Ala Tyr Thr Glu Ala  
 20 25 30  
 Asp Phe Phe Gly Lys Ser Ile Phe Phe Cys Leu Leu Ile Leu Ser Val  
 35 40 45  
 Cys Thr Trp Thr Val Leu His Gln Lys Leu Ala Ile Gln Lys Asn Phe  
 50 55 60  
 Leu Lys Ala Gly Lys Ser Leu Lys Asp Phe Leu Ile Lys Asn Arg His  
 65 70 75 80  
 Ala Pro Leu Ser Leu Asp Ile His Pro Glu Leu Ser Pro Phe Ala Asp  
 85 90 95  
 Leu Tyr Phe Thr Ile Lys Arg Gly Thr Leu Glu Leu Leu Asp Lys Asn  
 100 105 110  
 Arg Gln Ser Ala Pro Asp Arg Gly Pro Ile Leu Ser Ser Glu Asp Ile  
 115 120 125  
 Gln Ser Leu Glu Thr Leu Leu Gly Ala Ile Met Pro Lys Tyr Lys Ala  
 130 135 140

Leu Leu His Lys Asn Ser Phe Ile Pro Ala Thr Thr Ile Ser Leu Ala  
 145 150 155 160  
 Pro Phe Leu Gly Leu Leu Gly Thr Val Trp Gly Ile Leu Val Ala Phe  
 165 170 175  
 Thr His Ile Ser Ser Gly Ser Ser Gly Asn Ser Ala Ile Met Glu Gly  
 180 185 190  
 Leu Ala Thr Ala Leu Gly Thr Thr Ile Ile Gly Leu Phe Val Ala Ile  
 195 200 205  
 Pro Ser Leu Ile Ala Phe Asn Tyr Leu Lys Ala His Ser Ser Glu Leu  
 210 215 220  
 Ile Ser Glu Ile Glu Gln Thr Ala Tyr Leu Leu Leu Asn Ser Ile Glu  
 225 230 235 240  
 Val Lys Tyr Arg Asn Thr Asn Leu  
 245

<210> 788

<211> 719

<212> PRT

<213> Chlamydia pneumoniae

<400> 788

Asn His Gly Val Ile Leu Asn Lys Phe Lys Thr Tyr Leu Gln Thr Ala  
 1 5 10 15  
 Leu Ile Ala Pro Phe Phe Ser Phe Pro Ala Leu Ser Gly Ser Phe Ser  
 20 25 30  
 Ser Ile Gln Ala Glu Glu Ile Thr Gln Gln Val Asn His Pro Gly Ala  
 35 40 45  
 Glu Leu Leu Ser Glu Gly Ser Tyr Ile Pro Gly Leu Gln Thr Phe Arg  
 50 55 60  
 Leu Gly Ile Lys Ile Thr Ala Ser Lys Gly Ser His Ile Tyr Trp Lys  
 65 70 75 80  
 Asn Pro Gly Glu Ile Gly Ser Pro Leu Lys Ile Ser Trp Gln Leu Pro  
 85 90 95  
 Lys Gly Phe Val Val Glu Glu Glu His Trp Pro Thr Pro Lys Val Phe  
 100 105 110  
 Glu Glu Glu Gly Thr Thr Phe Phe Gly Tyr Glu Asp Ser Ala Leu Ile  
 115 120 125  
 Val Ala Asp Val Arg Ala Pro Glu Gly Tyr Thr Pro Gly Gln Glu Val  
 130 135 140  
 Glu Leu Arg Ala Gln Val Glu Trp Leu Ala Cys Gly Asp Ser Cys Leu  
 145 150 155 160  
 Pro Gly Asn Val Asp Leu Lys Leu Thr Leu Pro Tyr Glu Glu Lys Glu  
 165 170 175  
 Pro Ser Leu Tyr Pro Asp Thr His Ala Glu Phe Thr Lys Thr Leu His  
 180 185 190  
 Ala Gln Pro Arg Val Leu Glu Asn Asp His Ser Val Gln Val Ala Gln  
 195 200 205  
 Gly Lys Gly Asn Glu Ile Ile Leu Asn Ile Ser Lys Lys Ile Asn Ala  
 210 215 220  
 Thr Lys Ala Trp Phe Val Ser Glu Lys Ala Asp Lys Leu Phe Ala Tyr  
 225 230 235 240  
 Ala Glu Thr Ser Tyr Ser Gly Gly Thr Gly Thr Ala Trp Arg Leu Lys  
 245 250 255  
 Val Lys Asn Leu Ser Gly Val Gln Lys Asn Glu Lys Leu His Gly Ile  
 260 265 270  
 Leu Leu Leu Ala Asp His Thr Gly Arg Pro Val Glu Ser Leu Thr Ile  
 275 280 285  
 His Ser Glu Val Leu Gly Gln Thr Gly Ser Ala Val Ala Gly Leu Ser  
 290 295 300  
 Gln Tyr Ile Thr Ile Leu Ile Met Ala Phe Leu Gly Gly Val Leu Leu  
 305 310 315 320



Asn Ile Met Pro Cys Val Leu Pro Leu Val Thr Leu Lys Val Tyr Gly  
 325 330 335  
 Leu Ile Lys Ser Ala Gly Glu His Arg Ser Ser Val Ile Ala Asn Gly  
 340 345 350  
 Leu Trp Phe Thr Leu Gly Val Val Gly Cys Phe Trp Gly Leu Ala Gly  
 355 360 365  
 Val Ala Phe Ile Leu Lys Val Leu Gly His Asn Ile Gly Trp Gly Phe  
 370 375 380  
 Gln Leu Gln Glu Pro Met Phe Val Ala Thr Leu Ile Ile Val Phe Phe  
 385 390 395 400  
 Leu Phe Ala Leu Ser Ser Leu Gly Leu Phe Glu Met Gly Thr Met Phe  
 405 410 415  
 Ala Asn Leu Gly Gly Lys Leu Gln Ser Ser Glu Met Lys Ser Ser Asn  
 420 425 430  
 Asn Lys Ala Val Gly Ala Phe Phe Asn Gly Ile Leu Ala Thr Leu Val  
 435 440 445  
 Thr Thr Pro Cys Thr Gly Pro Phe Leu Gly Ser Val Leu Gly Leu Val  
 450 455 460  
 Met Ser Leu Ser Phe Leu Gln Gln Leu Leu Ile Phe Thr Ala Ile Gly  
 465 470 475 480  
 Leu Gly Met Ala Ser Pro Tyr Leu Val Phe Ser Val Phe Pro Lys Met  
 485 490 495  
 Leu Ser Val Leu Pro Lys Pro Gly Gly Trp Met Ser Thr Phe Lys Gln  
 500 505 510  
 Leu Thr Gly Phe Met Leu Leu Val Thr Val Thr Trp Leu Val Trp Ile  
 515 520 525  
 Phe Gly Ser Glu Thr Ser Thr Thr Ser Val Val Val Leu Leu Gly Gly  
 530 535 540  
 Leu Trp Leu Ala Gly Leu Gly Ala Trp Ile Leu Gly Arg Trp Gly Thr  
 545 550 555 560  
 Pro Val Ser Pro Lys Lys Gln Arg Val Cys Ala Ser Leu Leu Phe Phe  
 565 570 575  
 Ala Phe Leu Gly Gly Ala Ile Ser Val Ser Gly Leu Ala Ser His Tyr  
 580 585 590  
 Phe Ala Glu Pro Gln Gln Thr Val Ser Val Asn Glu Asp Ser Leu Trp  
 595 600 605  
 Gln Pro Phe Ser Leu Glu Lys Leu Ala Gln Leu Arg Ala Gln Gly Arg  
 610 615 620  
 Pro Val Phe Val Asn Phe Thr Ala Lys Trp Cys Leu Thr Cys Gln Met  
 625 630 635 640  
 Asn Lys Pro Val Leu Tyr Gly Asp Ala Val Gln Lys Met Phe Glu Thr  
 645 650 655  
 His Gly Ile Val Thr Leu Glu Ala Asp Trp Thr Arg Lys Asp Pro Gly  
 660 665 670  
 Ile Thr Glu Glu Leu Ala Arg Leu Gly Arg Ala Ser Val Pro Ser Tyr  
 675 680 685  
 Val Tyr Tyr Pro Gly Asp Asn Ser Ala Pro Val Val Leu Pro Glu Lys  
 690 695 700  
 Ile Thr Gln Asn Leu Leu Glu Asp Val Val Ser Arg Phe Val Arg  
 705 710 715

<210> 789

<211> 266

<212> PRT

<213> Chlamydia pneumoniae

<400> 789

Thr Arg Arg Gln Pro Val Asp Leu Ala Asp Ala His Val His Leu Ser  
 1 5 10 15  
 Asp Asp Ala Phe Glu Glu Asp Ile Asn Ser Val Leu Gln Arg Ala Gln  
 20 25 30

Asp Ser Gly Val Ser Leu Val Val Asn Val Thr Thr Thr Glu Lys Glu  
 35 40 45  
 Leu Asn Arg Ser Phe Ala Tyr Ala Glu Arg Phe Pro Lys Ile Arg Phe  
 50 55 60  
 Cys His Val Gly Gly Thr Pro Pro Gln Asp Val Asp Gln Asp Ile Glu  
 65 70 75 80  
 Glu Asp Tyr Arg Asn Phe His Ala Ala Ala His Ser Lys Lys Leu Ala  
 85 90 95  
 Ala Ile Gly Glu Val Gly Leu Asp Tyr Cys Phe Ala Thr Glu Glu Gly  
 100 105 110  
 Ile Ala Arg Gln Lys Glu Val Leu Gln Arg Tyr Leu Ala Leu Ser Leu  
 115 120 125  
 Glu Cys Glu Leu Pro Leu Val Val His Cys Arg Gly Ala Phe Asn Asp  
 130 135 140  
 Phe Phe Arg Met Leu Asp Gln Tyr Tyr His Asn Asp Pro Arg Ser Arg  
 145 150 155 160  
 Pro Gly Met Leu His Cys Phe Thr Gly Thr Leu Glu Glu Ala Gln Glu  
 165 170 175  
 Leu Ile Ser Arg Gly Trp Phe Ile Ser Ile Ser Gly Ile Val Thr Phe  
 180 185 190  
 Lys Asn Ala Gln Asp Leu Arg Asp Leu Val Val Glu Leu Pro Leu Glu  
 195 200 205  
 His Leu Leu Ile Glu Thr Asp Ala Pro Phe Leu Ala Pro Val Pro Tyr  
 210 215 220  
 Arg Gly Lys Lys Asn Glu Pro Ala His Val Leu His Thr Ile Asn Ala  
 225 230 235 240  
 Val Ala Asn Val Lys Gly Met Phe Pro Gln Glu Leu Ala Ala Leu Ala  
 245 250 255  
 Tyr Lys Asn Val Leu Arg Phe Leu His Gly  
 260 265

<210> 790  
 <211> 304  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 790  
 Ser Leu Val Lys Ser Leu Arg Met Ser Arg His Glu Ile Cys Pro Glu  
 1 5 10 15  
 Val Ser His Lys Lys Gly Lys Tyr Tyr Ser Thr Phe Ile Phe Arg Cys  
 20 25 30  
 Ile His Ser Leu Ala Gly Ile Ala Phe Thr Phe Phe Leu Cys Glu His  
 35 40 45  
 Leu Phe Thr Asn Met Leu Ala Ser Ser Tyr Phe Ser Gln Gly Lys Gly  
 50 55 60  
 Phe Val Ala Met Val Asn Gly Phe His Lys Ile Pro Gly Leu Lys Ile  
 65 70 75 80  
 Ile Glu Val Ala Gly Leu Val Leu Pro Phe Leu Cys His Ala Ile Ile  
 85 90 95  
 Gly Ile Val Tyr Leu Phe Gln Gly Lys Ser Asn Cys Tyr Ser Gly Asp  
 100 105 110  
 Gly Ser Arg Pro His Leu Arg Tyr Ala Lys Asn Tyr Ser Tyr Thr Trp  
 115 120 125  
 Gln Arg Trp Thr Ala Trp Ile Leu Leu Phe Gly Ile Ala Phe His Val  
 130 135 140  
 Val His Leu Arg Phe Ile Arg Tyr Pro Val His Val Asp Ile His Gly  
 145 150 155 160  
 Thr Thr Tyr Tyr Ala Val Asp Ile Gln Pro Ser Arg Tyr Asp Val Ile  
 165 170 175  
 Val Arg Gly Thr Lys Gly Phe Leu Thr Leu Asn Leu Pro Asn Thr Glu  
 180 185 190

Ala Ser Ser Ile Glu Val Ser Arg His Asp Leu Gly Gly Ala Asp Ala  
195 200 205  
Ala Leu Leu Ser Glu Arg Asn Ser Tyr Leu Leu Thr Pro Ser Ala Gly  
210 215 220  
Thr Ala Phe Leu Tyr Val Val Arg Asp Ala Leu Gly Ser Leu Phe Ile  
225 230 235 240  
Ala Leu Leu Tyr Thr Ile Leu Val Ile Ala Ala Ala Phe His Gly Phe  
245 250 255  
Asn Gly Leu Trp Thr Phe Cys Cys Arg Trp Gly Val Val Val Ser Leu  
260 265 270  
Arg Met Gln Gly Val Leu Arg Ile Val Cys Tyr Leu Ala Met Ile Val  
275 280 285  
Val Thr Phe Met Gly Val Ser Ala Val Trp Asn Leu Tyr Ser Val Ala  
290 295 300

<210> 791

<211> 627

<212> PRT

<213> Chlamydia pneumoniae

<400> 791

Gln Met Asp Glu Asn Arg Lys Val Ile Val Val Gly Gly Gly Leu Ala  
1 5 10 15  
Gly Leu Ser Ala Ala Met Gln Leu Ala Asn Leu Gly Ile Ile Val Glu  
20 25 30  
Leu Val Ser Leu Thr Lys Val Lys Arg Ser His Ser Val Cys Ala Gln  
35 40 45  
Gly Gly Ile Asn Ala Ala Leu Asn Leu Lys Pro Glu Glu Glu Asp Ser  
50 55 60  
Pro Tyr Val His Ala Tyr Asp Thr Ile Lys Gly Gly Asp Phe Leu Ala  
65 70 75 80  
Asp Gln Pro Pro Val Leu Glu Met Cys Leu Ala Ala Pro Arg Ile Ile  
85 90 95  
Lys Met Leu Asp Asn Phe Gly Cys Pro Phe Asn Arg Gly Pro Ser Gly  
100 105 110  
Asn Leu Asp Val Arg Arg Phe Gly Gly Thr Leu Tyr His Arg Thr Val  
115 120 125  
Phe Cys Gly Ala Ser Thr Gly Gln Gln Leu Met Tyr Thr Leu Asp Glu  
130 135 140  
Gln Val Arg Arg Arg Glu His Ala Gly Arg Val Ile Lys Arg Glu Asn  
145 150 155 160  
His Glu Phe Val Arg Leu Val Thr Asp His Ser Gly Arg Ala Cys Gly  
165 170 175  
Ile Ile Leu Met Asn Leu Phe Asn Asn Arg Leu Glu Ile Leu Arg Gly  
180 185 190  
Asp Ala Val Ile Ile Ala Thr Gly Gly Pro Gly Val Ile Phe Lys Met  
195 200 205  
Ser Thr Asn Ser Thr Phe Cys Thr Gly Ala Ala Asn Gly Arg Leu Phe  
210 215 220  
Leu Gln Gly Met Ala Tyr Ala Asn Pro Glu Phe Ile Gln Ile His Pro  
225 230 235 240  
Thr Ala Ile Pro Gly Arg Asp Lys Leu Arg Leu Ile Ser Glu Ser Val  
245 250 255  
Arg Gly Glu Gly Gly Arg Val Trp Val Pro Gly Asp Ser Ser Lys Arg  
260 265 270  
Ile Val Phe Pro Asp Gly Ser Glu Arg Pro Cys Gly Glu Thr Gly Ala  
275 280 285  
Pro Trp Tyr Phe Leu Glu Asp Met Tyr Pro Ala Tyr Gly Asn Leu Val  
290 295 300  
Ser Arg Asp Val Gly Ala Arg Ala Ile Leu Arg Val Cys Glu Ala Gly  
305 310 315 320

Leu Gly Ile Asp Gly Arg Met Glu Ala Tyr Leu Asp Val Thr His Leu  
 325 330 335  
 Pro Glu Lys Thr Arg His Lys Leu Glu Val Val Leu Asp Ile Tyr Lys  
 340 345 350  
 Lys Phe Thr Gly Glu Asp Pro Asn Thr Val Pro Met Arg Ile Phe Pro  
 355 360 365  
 Ala Val His Tyr Ser Met Gly Gly Ala Trp Val Asp Trp Pro Ala Ala  
 370 375 380  
 Asp Asp Pro Asp Arg Asp Ser Arg Phe Arg Gln Met Thr Asn Ile Pro  
 385 390 395 400  
 Gly Cys Phe Asn Cys Gly Glu Ser Asp Phe Gln Tyr His Gly Ala Asn  
 405 410 415  
 Arg Leu Gly Ala Asn Ser Leu Leu Ser Cys Leu Phe Ala Gly Leu Val  
 420 425 430  
 Ser Gly Asp Glu Ala Ser Arg Phe Ile Glu Ala Phe Gly Ala Ser Gln  
 435 440 445  
 Ala Thr Ser Ser Asp Phe Asp Arg Ala Leu Gln Gln Glu Lys Glu Glu  
 450 455 460  
 Asn Ala Arg Leu Leu Ser Ala Ser Gly Lys Glu Asn Ile Phe Val Leu  
 465 470 475 480  
 His Glu Glu Ile Ala Lys Ile Met Val Arg Asn Val Thr Val Lys Arg  
 485 490 495  
 Asn Asn Arg Asp Leu Gln Glu Thr Met Asp Lys Leu Lys Glu Phe Arg  
 500 505 510  
 Glu Arg Leu Lys Asn Val Ser Val Leu Asp Ser Ser Pro Phe Ala Asn  
 515 520 525  
 Lys Ser Phe His Phe Val Arg Gln Met Gly Pro Met Leu Glu Leu Ala  
 530 535 540  
 Leu Ala Ile Thr Lys Gly Ala Leu Leu Arg Asn Glu Phe Arg Gly Ser  
 545 550 555 560  
 His Tyr Lys Pro Glu Phe Pro Glu Arg Asp Asp Glu His Trp Leu Lys  
 565 570 575  
 Thr Thr Val Ala Val Tyr Ala Pro Glu Glu Pro Glu Ile Ser Tyr Leu  
 580 585 590  
 Pro Val Asp Thr Arg His Val Ala Pro Thr Leu Arg Asp Tyr Thr Lys  
 595 600 605  
 Ser Ser Thr Gly Lys Ile Glu Leu Thr Asn Ile Pro Asp Asn Ile Arg  
 610 615 620  
 Leu Pro Ile  
 625

<210> 792

<211> 275

<212> PRT

<213> Chlamydia pneumoniae

<400> 792

Asn Ser Arg Ile Phe Leu Ile Ile Ser Val Tyr Pro Tyr Arg Lys Arg  
 1 5 10 15  
 Glu Met Met Glu Asn Leu Glu Thr Phe Ile Leu Lys Ile Tyr Arg Gly  
 20 25 30  
 Val Pro Gly Lys Gln Tyr Trp Glu Ser Phe Glu Leu Pro Leu His Pro  
 35 40 45  
 Gly Glu Asn Val Ile Ser Ala Leu Met Glu Ile Glu Lys Arg Pro Val  
 50 55 60  
 Asn Ile Leu Gly Glu Lys Val Asn Pro Val Val Trp Glu Gln Gly Cys  
 65 70 75 80  
 Leu Glu Glu Val Cys Gly Ser Cys Ser Ile Leu Val Asn Gly Val Pro  
 85 90 95  
 Arg Gln Ala Cys Thr Ala Leu Ile Gln Glu Tyr Ile Asp Ala Thr Gln  
 100 105 110

Ser Arg Glu Ile Val Leu Ala Pro Leu Thr Lys Phe Pro Leu Ile Arg  
 115 120 125  
 Asp Leu Ile Val Asp Arg Ser Ile Met Phe Asp Asn Leu Glu Arg Ile  
 130 135 140  
 Gln Gly Trp Val Ala Ala Asp Ile Glu Gly Glu Thr Phe Gly Pro Gln  
 145 150 155 160  
 Val Thr Gln Glu Gln Gln Glu Leu Leu Tyr Ala Leu Ser Gln Cys Met  
 165 170 175  
 Thr Cys Gly Cys Cys Thr Glu Ala Cys Pro Gln Ile Asp Asn Lys Ser  
 180 185 190  
 Asp Phe Ile Gly Pro Ala Ala Ile Ser Gln Ala Arg Tyr Phe Asn Thr  
 195 200 205  
 Tyr Pro Gly Asp Lys Arg Ser Lys Lys Arg Trp Arg Ala Leu Met Gly  
 210 215 220  
 Lys Gly Gly Ile Glu Gly Cys Gly Gln Ala His Asn Cys Val Arg Val  
 225 230 235 240  
 Cys Pro Lys Lys Leu Pro Leu Thr Glu Ser Ile Ser Ala Val Gly Arg  
 245 250 255  
 Glu Ile Ser Lys Phe Ser Leu Arg Ser Leu Phe Ser Ala Leu Phe Lys  
 260 265 270  
 Lys Lys Lys  
 275

<210> 793  
 <211> 998  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 793  
 Thr Cys Leu Arg Ser Ser Arg Lys Ile Val Val Glu Asp Ile Ser Asp  
 1 5 10 15  
 Arg Asn Met Tyr Ser Cys Tyr Ser Lys Gly Ile Ser His Asn Tyr Leu  
 20 25 30  
 Leu His Pro Met Ser Arg Leu Asp Ile Phe Val Phe Asp Ser Leu Ile  
 35 40 45  
 Ala Asn Gln Asp Gln Asn Leu Glu Glu Ile Phe Cys Ser Glu Asp  
 50 55 60  
 Thr Val Leu Phe Lys Ala Tyr Arg Thr Thr Ala Leu Gln Ser Pro Leu  
 65 70 75 80  
 Ala Ala Lys Asn Leu Asn Ile Ala Arg Lys Val Ala Asn Tyr Ile Leu  
 85 90 95  
 Ala Asp Asn Gly Glu Ile Asp Thr Val Lys Leu Val Glu Ala Ile His  
 100 105 110  
 His Leu Ser Gln Cys Thr Tyr Pro Leu Gly Pro His Arg His Asn Glu  
 115 120 125  
 Ala Gln Asp Arg Glu His Leu Leu Lys Met Leu Lys Ala Leu Lys Glu  
 130 135 140  
 Asn Pro Lys Leu Lys Glu Ser Ile Lys Thr Leu Phe Val Pro Ser Tyr  
 145 150 155 160  
 Ser Thr Ile Gln Asn Leu Ile Arg His Thr Leu Ala Leu Asn Pro Gln  
 165 170 175  
 Thr Ile Leu Ser Thr Ile His Val Arg Gln Ala Ala Leu Thr Ala Leu  
 180 185 190  
 Phe Thr Tyr Leu Arg Gln Asp Val Gly Ser Cys Phe Ala Thr Ala Pro  
 195 200 205  
 Ala Ile Leu Ile His Gln Glu Tyr Pro Glu Arg Phe Leu Lys Asp Leu  
 210 215 220  
 Asn Asp Leu Ile Ser Ser Gly Lys Leu Ser Arg Ile Val Asn Gln Arg  
 225 230 235 240  
 Glu Ile Ala Val Pro Ile Asn Leu Ser Gly Cys Ile Gly Glu Leu Phe  
 245 250 255

Lys Pro Leu Arg Ile Leu Asp Leu Tyr Pro Asp Pro Leu Val Lys Leu  
 260 265 270  
 Ser Ser Ser Pro Gly Leu Lys Lys Ala Phe Ser Ala Ala Asn Leu Ile  
 275 280 285  
 Glu Thr Leu Gly Asp Ser Glu Ala Gln Ile Gln Gln Leu Leu Ser His  
 290 295 300  
 Gln Tyr Leu Met Gln Lys Leu Gln Asn Val His Glu Thr Leu Thr Ala  
 305 310 315 320  
 Asn Asp Ile Ile Lys Ser Thr Leu Leu His Tyr Tyr Gln Leu Gln Glu  
 325 330 335  
 Ser Thr Val Arg Ala Ile Phe Phe Lys Glu Gly Leu Phe Ser Lys Glu  
 340 345 350  
 Gln Val Ala Phe Ser Thr Gln His Pro Arg Glu Leu Ser Glu Ile Gln  
 355 360 365  
 Arg Val Tyr His Tyr Leu His Ala Tyr Glu Glu Ala Lys Ser Ala Phe  
 370 375 380  
 Ile His Asp Thr Gln Asn Pro Leu Leu Lys Ala Trp Glu Tyr Thr Leu  
 385 390 395 400  
 Ala Thr Leu Ala Asp Ala Ser Gln Pro Thr Ile Ser Asn His Ile Arg  
 405 410 415  
 Leu Ala Leu Gly Trp Lys Ser Glu Asp Pro His Ser Leu Val Ser Leu  
 420 425 430  
 Val Thr His Phe Val Glu Glu Glu Val Glu Asn Ile Arg Ile Leu Val  
 435 440 445  
 Gln Gln Cys Glu Gln Thr Tyr His Glu Ala Arg Ser Gln Leu Glu Tyr  
 450 455 460  
 Ile Glu Gly Arg Met Arg Asn Pro Leu Asn Asn Gln Asp Ser Gln Ile  
 465 470 475 480  
 Leu Thr Met Asp His Met Arg Phe Arg Gln Glu Leu Asn Lys Ala Leu  
 485 490 495  
 Tyr Glu Trp Asp Ser Ala Gln Glu Lys Ala Lys Lys Phe Leu His Leu  
 500 505 510  
 Pro Glu Phe Leu Leu Ser Phe Tyr Thr Lys Gln Ile Pro Leu Tyr Phe  
 515 520 525  
 Arg Ser Ser Tyr Asp Ala Phe Ile Gln Glu Phe Ala His Leu Tyr Ala  
 530 535 540  
 Asn Ala Pro Ala Gly Phe Arg Ile Leu Phe Thr His Gly Arg Thr His  
 545 550 555 560  
 Pro Asn Thr Trp Ser Pro Ile Tyr Ser Ile Asn Glu Phe Ile Arg Phe  
 565 570 575  
 Leu Ser Glu Phe Phe Thr Ser Thr Glu Ser Glu Leu Leu Gly Lys His  
 580 585 590  
 Ala Val Ile Asn Leu Glu Lys Glu Thr Ser Arg Leu Val His Asn Ile  
 595 600 605  
 Thr Ala Met Leu His Thr Asp Val Phe Gln Glu Ala Leu Leu Thr Arg  
 610 615 620  
 Ile Leu Glu Ala Tyr Gln Leu Pro Val Pro Pro Ser Ile Leu Asn His  
 625 630 635 640  
 Leu Asp Gln Leu Ser Gln Thr Pro Trp Val Tyr Val Ser Gly Gly Thr  
 645 650 655  
 Val Asp Thr Leu Leu Leu Asp Tyr Phe Glu Ser Ser Glu Pro Leu Thr  
 660 665 670  
 Leu Thr Glu Lys His Pro Glu Asn Pro His Glu Leu Ala Ala Phe Tyr  
 675 680 685  
 Ala Asp Ala Leu Lys Asp Leu Pro Thr Gly Ile Lys Ser Tyr Leu Glu  
 690 695 700  
 Glu Gly Ser His Ser Leu Leu Ser Ser Ser Pro Thr His Val Phe Ser  
 705 710 715 720  
 Ile Ile Ala Gly Ser Pro Leu Phe Arg Glu Ala Trp Asp Asn Asp Trp  
 725 730 735

Tyr Ser Tyr Thr Trp Leu Arg Asp Val Trp Val Lys Gln His Gln Asp  
 740 745 750  
 Phe Leu Gln Asp Thr Ile Leu Pro Gln Leu Ser Ile Tyr Ala Phe Ile  
 755 760 765  
 Glu Asn Phe Cys Asn Lys Tyr Ala Leu Gln His Val Val His Asp Phe  
 770 775 780  
 His Asp Phe Cys Ser Asp His Ser Leu Thr Leu Pro Glu Leu Tyr Asp  
 785 790 795 800  
 Lys Gly Ser Arg Phe Leu Ser Ser Leu Phe Thr Lys Asp Lys Thr Val  
 805 810 815  
 Ala Leu Ile Tyr Ile Arg Arg Leu Leu Tyr Leu Met Val Arg Glu Val  
 820 825 830  
 Pro Tyr Val Ser Glu Gln Gln Leu Pro Glu Val Leu Asp Asn Val Ser  
 835 840 845  
 Ser Tyr Leu Gly Ile Ser Ser Arg Ile Thr Tyr Glu Lys Phe Arg Ser  
 850 855 860  
 Leu Ile Glu Glu Thr Ile Pro Lys Met Thr Leu Leu Ser Ser Ala Asp  
 865 870 875 880  
 Leu Arg His Ile Tyr Lys Gly Leu Leu Met Gln Ser Tyr Gln Lys Ile  
 885 890 895  
 Tyr Thr Glu Glu Asp Thr Tyr Leu Arg Leu Thr Thr Ala Met Arg His  
 900 905 910  
 His Asn Leu Ala Tyr Pro Ala Pro Leu Leu Phe Ala Asp Ser Asn Trp  
 915 920 925  
 Pro Ser Ile Tyr Phe Gly Phe Ile Leu Asn Pro Gly Thr Thr Glu Ile  
 930 935 940  
 Asp Leu Trp Lys Phe Asn Tyr Ala Gly Leu Gln Gly Gln Pro Leu Asp  
 945 950 955 960  
 Asn Ile Gln Glu Leu Phe Ala Thr Ser Arg Pro Trp Thr Leu Tyr Ala  
 965 970 975  
 Asn Pro Ile Asp Tyr Gly Met Pro Pro Pro Pro Gly Tyr Arg Ser Arg  
 980 985 990  
 Leu Pro Lys Glu Phe Phe  
 995

<210> 794  
 <211> 616  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 794  
 Arg His His Leu Ile Asn Ile Lys Gly Ile Arg Ile Met Lys His Thr  
 1 5 10 15  
 Phe Thr Lys Arg Val Leu Phe Phe Phe Phe Leu Val Ile Pro Ile Pro  
 20 25 30  
 Leu Leu Leu Asn Leu Met Val Val Gly Phe Phe Ser Phe Ser Ala Ala  
 35 40 45  
 Lys Ala Asn Leu Val Gln Val Leu His Thr Arg Ala Thr Asn Leu Ser  
 50 55 60  
 Ile Glu Phe Glu Lys Lys Leu Thr Ile His Lys Leu Phe Leu Asp Arg  
 65 70 75 80  
 Leu Ala Asn Thr Leu Ala Leu Lys Ser Tyr Ala Ser Pro Ser Ala Glu  
 85 90 95  
 Pro Tyr Ala Gln Ala Tyr Asn Glu Met Met Ala Leu Ser Asn Thr Asp  
 100 105 110  
 Phe Ser Leu Cys Leu Ile Asp Pro Phe Asp Gly Ser Val Arg Thr Lys  
 115 120 125  
 Asn Pro Gly Asp Pro Phe Ile Arg Tyr Leu Lys Gln His Pro Glu Met  
 130 135 140  
 Lys Lys Lys Leu Ser Ala Ala Val Gly Lys Ala Phe Leu Leu Thr Ile  
 145 150 155 160

Pro Gly Lys Pro Leu Leu His Tyr Leu Ile Leu Val Glu Asp Val Ala  
 165 170 175  
 Ser Trp Asp Ser Thr Thr Thr Ser Gly Leu Leu Val Ser Phe Tyr Pro  
 180 185 190  
 Met Ser Phe Leu Gln Lys Asp Leu Phe Gln Ser Leu His Ile Thr Lys  
 195 200 205  
 Gly Asn Ile Cys Leu Val Asn Lys Tyr Gly Glu Val Leu Phe Cys Ala  
 210 215 220  
 Gln Asp Ser Glu Ser Ser Phe Val Phe Ser Leu Asp Leu Pro Asn Leu  
 225 230 235 240  
 Pro Gln Phe Gln Ala Arg Ser Pro Ser Ala Ile Glu Ile Glu Lys Ala  
 245 250 255  
 Ser Gly Ile Leu Gly Gly Glu Asn Leu Ile Thr Val Ser Ile Asn Lys  
 260 265 270  
 Lys Arg Tyr Leu Gly Leu Val Leu Asn Lys Ile Pro Ile Gln Gly Thr  
 275 280 285  
 Tyr Thr Leu Ser Leu Val Pro Val Ser Asp Leu Ile Gln Ser Ala Leu  
 290 295 300  
 Lys Val Pro Leu Asn Ile Cys Phe Phe Tyr Val Leu Ala Phe Leu Leu  
 305 310 315 320  
 Met Trp Trp Ile Phe Ser Lys Ile Asn Thr Lys Leu Asn Lys Pro Leu  
 325 330 335  
 Gln Glu Leu Thr Phe Cys Met Glu Ala Ala Trp Arg Gly Asn His Asn  
 340 345 350  
 Val Arg Phe Glu Pro Gln Pro Tyr Gly Tyr Glu Phe Asn Glu Leu Gly  
 355 360 365  
 Asn Ile Phe Asn Cys Thr Leu Leu Leu Leu Leu Asn Ser Ile Glu Lys  
 370 375 380  
 Ala Asp Ile Asp Tyr His Ser Gly Glu Lys Leu Gln Lys Glu Leu Gly  
 385 390 395 400  
 Ile Leu Ser Ser Leu Gln Ser Ala Leu Leu Ser Pro Asp Phe Pro Thr  
 405 410 415  
 Phe Pro Lys Val Thr Phe Ser Ser Gln His Leu Arg Arg Arg Gln Leu  
 420 425 430  
 Ser Gly His Phe Asn Gly Trp Thr Val Gln Asp Gly Gly Asp Thr Leu  
 435 440 445  
 Leu Gly Ile Ile Gly Leu Ala Gly Asp Ile Gly Leu Pro Ser Tyr Leu  
 450 455 460  
 Tyr Ala Leu Ser Ala Arg Ser Leu Phe Leu Ala Tyr Ala Ser Ser Asp  
 465 470 475 480  
 Val Ser Leu Gln Lys Ile Ser Lys Asp Thr Ala Asp Ser Phe Ser Lys  
 485 490 495  
 Thr Thr Glu Gly Asn Glu Ala Val Val Ala Met Thr Phe Ile Lys Tyr  
 500 505 510  
 Val Glu Lys Asp Arg Ser Leu Glu Leu Leu Ser Leu Ser Glu Gly Ala  
 515 520 525  
 Pro Thr Met Phe Leu Gln Arg Gly Glu Ser Phe Val Arg Leu Pro Leu  
 530 535 540  
 Glu Thr His Gln Ala Leu Gln Pro Gly Asp Arg Leu Ile Cys Leu Thr  
 545 550 555 560  
 Gly Gly Glu Asp Ile Leu Lys Tyr Phe Ser Gln Leu Pro Ile Glu Glu  
 565 570 575  
 Leu Leu Lys Asp Pro Leu Asn Pro Leu Asn Thr Glu Asn Leu Ile Asp  
 580 585 590  
 Ser Leu Thr Met Met Leu Asn Asn Glu Thr Glu His Ser Ala Asp Gly  
 595 600 605  
 Thr Leu Thr Ile Leu Ser Phe Ser  
 610 615



<210> 795  
 <211> 640  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 795  
 Ser Ala Val Ile Pro Met Ile Pro Phe Thr Lys Thr Ile Gly Phe Arg  
 1 5 10 15  
 Leu Trp Leu Ala Cys Ala Val Ala Ile Ala Pro Leu Gly Ile Asn  
 20 25 30  
 Ile Val Trp Leu Asn Leu Asp Gln Tyr Arg Thr Ile Val Ser Ala Ile  
 35 40 45  
 Ser Thr Ala Leu Lys Glu Asn Ala Ala Phe Lys Ala Asn Thr Leu Thr  
 50 55 60  
 Gln Ile Val Pro Leu Asn Val Asp Val Leu Ser Leu Phe Ser Asp Val  
 65 70 75 80  
 Leu Asp Leu Asp Ala Gly Ile Pro Glu Thr Pro Asn Val Leu Leu Ser  
 85 90 95  
 Asn Glu Met Gln Lys Val Phe Gln Gly Ile Tyr Asn Glu Ile Ser Leu  
 100 105 110  
 Ile Lys Val Phe Pro Asn Gly Asp Lys Ile Val Val Ala Ser Ser Ile  
 115 120 125  
 Pro Glu His Leu Gly Glu Asn Tyr Asn His Lys Ile Asp Ile Pro Lys  
 130 135 140  
 Asn Thr Pro Phe Leu Ala Ala Leu Lys Gln Ser Pro Lys Asn Gln Glu  
 145 150 155 160  
 Val Phe Ser Val Met Gln Ala Asn Val Phe Asp Ala Lys Thr Gln Glu  
 165 170 175  
 Leu Gln Gly Ile Leu Tyr Thr Thr Phe Ser Ala Glu Ser Leu Leu Lys  
 180 185 190  
 Asp Leu Leu Ile Asn Lys Gln Ser Tyr Leu Thr Val Lys Thr Ala Ile  
 195 200 205  
 Leu Ser Lys Tyr Gly Val Ile Leu Lys Ala Ser Asp Pro Ala Leu His  
 210 215 220  
 Leu His Thr Val Tyr Pro Asp Met Thr Lys Glu Lys Phe Cys Gln Val  
 225 230 235 240  
 Phe Leu Asn Asp Asp Pro Cys Pro Ile Asp Ser Glu Leu Gly Pro Leu  
 245 250 255  
 Thr Leu Ser Pro Leu Asp Ile Gly Glu Asn Phe Tyr Ser Phe Lys Ile  
 260 265 270  
 Lys Asp Thr Glu Ile Trp Gly Cys Ile Glu Asn Val Pro Ser Ile Asp  
 275 280 285  
 Ile Ala Val Leu Ser Tyr Ala Lys Lys Glu Glu Ser Phe Ala Pro Leu  
 290 295 300  
 Trp Arg Arg Ala Arg Met Tyr Thr Ala Tyr Phe Phe Cys Ile Leu Leu  
 305 310 315 320  
 Gly Ser Leu Ile Ala Phe Ile Val Ala Arg Arg Leu Ser Leu Pro Ile  
 325 330 335  
 Arg Lys Leu Ala Thr Ala Met Ile Glu Ser Arg Lys Asn Lys Asn Cys  
 340 345 350  
 Leu Tyr Thr Asp Asp Ser Leu Gly Phe Glu Ile Asn Arg Leu Gly His  
 355 360 365  
 Ile Phe Asn Ala Met Val Glu Asn Leu His Lys Gln Gln His Leu Ala  
 370 375 380  
 Lys Thr Asn Phe Glu Met Lys Glu Asn Ala Gln Asn Ala Leu His Leu  
 385 390 395 400  
 Gly Glu Gln Ala Gln Arg Leu Leu Pro Asn Thr Leu Pro Ser Tyr  
 405 410 415  
 Pro His Ile Glu Leu Ala Lys Ala Tyr Ile Pro Ala Ile Thr Val Gly  
 420 425 430

Gly Asp Phe Phe Asp Val Phe Val Val Gly Glu Gly Ser Lys Ala Arg  
 435 440 445  
 Leu Phe Leu Ile Val Ala Asp Ala Ser Gly Lys Gly Val Asn Ala Cys  
 450 455 460  
 Gly Tyr Ser Leu Phe Leu Lys Asn Met Leu Arg Thr Phe Leu Ser Arg  
 465 470 475 480  
 Ser Ser Ser Leu Gln Gln Ala Ile Gln Glu Thr Ser Arg Leu Phe Tyr  
 485 490 495  
 Asn Asn Thr Lys Asn Ser Gly Met Phe Val Thr Leu Cys Val Tyr Cys  
 500 505 510  
 Tyr His Gln Thr Ser Asn Thr Met Glu Tyr Tyr Ser Cys Gly His Pro  
 515 520 525  
 Pro Ala Cys Tyr Leu Asp Pro Asp Gly Glu Thr Ser Trp Leu Phe His  
 530 535 540  
 Pro Gly Met Ala Leu Gly Phe Leu Pro Glu Val Ala Asn Ile Thr Ser  
 545 550 555 560  
 Lys Leu Phe His Pro Lys Pro Gly Ser Leu Phe Val Leu Tyr Ser Asp  
 565 570 575  
 Gly Ile Thr Glu Ala His Asn Asn Asn Asn Asp Met Phe Gly Glu Glu  
 580 585 590  
 Arg Leu Gln Ala Ala Ile Gln Gly Leu Thr Gly Lys Ser Ala Ala Asp  
 595 600 605  
 Ala Val His Arg Leu Met Leu Ser Val Lys Thr Phe Val Gly Asn Ser  
 610 615 620  
 His Gln His Asp Asp Ile Thr Leu Leu Ile Leu Lys Val Leu Glu Ser  
 625 630 635 640

<210> 796

<211> 294

<212> PRT

<213> Chlamydia pneumoniae

<400> 796

Lys Ser Ser Lys His Arg Ser Phe Leu Leu Lys Lys Ser Gly Gly Asn  
 1 5 10 15  
 Gln Val Ser Leu Tyr Gln Lys Trp Trp Asn Ser Gln Leu Lys Lys Ser  
 20 25 30  
 Leu Cys Tyr Ser Thr Val Ala Ala Leu Ile Phe Met Ile Pro Ser Gln  
 35 40 45  
 Glu Ser Phe Ala Asp Ser Leu Ile Asp Leu Asn Leu Gly Leu Asp Pro  
 50 55 60  
 Ser Val Glu Cys Leu Ser Gly Asp Gly Ala Phe Ser Val Gly Tyr Phe  
 65 70 75 80  
 Thr Lys Ala Gly Ser Thr Pro Val Glu Tyr Gln Pro Phe Lys Tyr Asp  
 85 90 95  
 Val Ser Lys Lys Thr Phe Thr Ile Leu Ser Val Glu Thr Ala Asn Gln  
 100 105 110  
 Ser Gly Tyr Ala Tyr Gly Ile Ser Tyr Asp Gly Thr Ile Thr Val Gly  
 115 120 125  
 Thr Cys Ser Leu Gly Ala Gly Lys Tyr Asn Gly Ala Lys Trp Ser Ala  
 130 135 140  
 Asp Gly Thr Leu Thr Pro Leu Thr Gly Ile Thr Gly Gly Thr Ser His  
 145 150 155 160  
 Thr Glu Ala Arg Ala Ile Ser Lys Asp Thr Gln Val Ile Glu Gly Phe  
 165 170 175  
 Ser Tyr Asp Ala Ser Gly Gln Pro Lys Ala Val Gln Trp Ala Ser Gly  
 180 185 190  
 Ala Thr Thr Val Thr Gln Leu Ala Asp Ile Ser Gly Gly Ser Arg Ser  
 195 200 205  
 Ser Tyr Ala Tyr Ala Ile Ser Asp Asp Gly Thr Ile Ile Val Gly Ser  
 210 215 220

Met Glu Ser Thr Ile Thr Arg Lys Thr Thr Ala Val Lys Trp Val Asn  
 225 230 235 240  
 Asn Val Pro Thr Tyr Leu Gly Thr Leu Gly Gly Asp Ala Ser Thr Gly  
 245 250 255  
 Leu Tyr Ile Ser Gly Asp Gly Thr Val Ile Val Gly Ala Ala Asn Thr  
 260 265 270  
 Ala Thr Val Thr Asn Gly Asn Gln Glu Ser His Ala Tyr Met Tyr Lys  
 275 280 285  
 Asp Asn Gln Met Lys Asp  
 290

<210> 797

<211> 396

<212> PRT

<213> Chlamydia pneumoniae

<400> 797

Gly Thr Leu Gly Gly Ala Asn Ser Ser Ala Thr Gly Val Ser Ser Asp  
 1 5 10 15  
 Gly Ser Val Ile Val Gly Gln Ala Gln Thr Ala Asp Lys Ser Val His  
 20 25 30  
 Ala Phe Gln Tyr Tyr Asn Gly Glu Met Lys Asp Leu Gly Thr Leu Gly  
 35 40 45  
 Gly Thr Ser Ser Thr Ala Lys Thr Val Ser Pro Asp Gly Lys Val Ile  
 50 55 60  
 Met Gly Arg Ser Gln Ile Ala Asp Gly Ser Trp His Ala Phe Met Cys  
 65 70 75 80  
 His Thr Asp Phe Ser Ser Asn Asn Val Leu Phe Asp Leu Asp Asn Thr  
 85 90 95  
 Tyr Lys Thr Leu Arg Glu Asn Gly Arg Gln Leu Asn Ser Ile Phe Asn  
 100 105 110  
 Leu Gln Asn Met Met Leu Gln Arg Ala Ser Asp His Glu Phe Thr Glu  
 115 120 125  
 Phe Gly Arg Ser Asn Ile Ala Leu Gly Ala Gly Leu Tyr Val Asn Ala  
 130 135 140  
 Leu Gln Asn Leu Pro Ser Asn Leu Ala Ala Gln Tyr Phe Gly Ile Ala  
 145 150 155 160  
 Tyr Lys Ile Arg Pro Lys Tyr Arg Leu Gly Val Phe Leu Asp His Asn  
 165 170 175  
 Phe Ser Ser His Val Pro Asn Asn Phe Asn Val Ser His Asn Arg Leu  
 180 185 190  
 Trp Met Gly Ala Phe Ile Gly Trp Gln Asp Ser Asp Ala Leu Gly Ser  
 195 200 205  
 Ser Val Lys Val Ser Phe Gly Tyr Gly Lys Gln Lys Ala Thr Ile Thr  
 210 215 220  
 Arg Glu Gln Leu Glu Asn Thr Glu Ala Gly Ser Gly Glu Ser His Phe  
 225 230 235 240  
 Glu Gly Val Ala Ala Gln Ile Glu Gly Arg Tyr Gly Lys Ser Leu Gly  
 245 250 255  
 Gly His Val Arg Val Gln Pro Phe Leu Gly Leu Gln Phe Val His Ile  
 260 265 270  
 Thr Arg Lys Glu Tyr Thr Glu Asn Ala Val Gln Phe Pro Val His Tyr  
 275 280 285  
 Asp Pro Ile Asp Tyr Ser Thr Gly Val Val Tyr Leu Gly Ile Gly Ser  
 290 295 300  
 His Ile Ala Leu Val Asp Ser Leu His Val Gly Thr Arg Met Gly Met  
 305 310 315 320  
 Glu Gln Asn Phe Ala Ala His Thr Asp Arg Phe Ser Gly Ser Ile Ala  
 325 330 335  
 Ser Ile Gly Asn Phe Val Phe Glu Lys Leu Asp Val Thr His Thr Arg  
 340 345 350

Ala Phe Ala Glu Met Arg Val Asn Tyr Glu Leu Pro Tyr Leu Gln Ser  
 355 360 365  
 Leu Asn Leu Ile Leu Arg Val Asn Gln Gln Pro Leu Gln Gly Val Met  
 370 375 380  
 Gly Phe Ser Ser Asp Leu Arg Tyr Ala Leu Gly Phe  
 385 390 395

<210> 798  
 <211> 687  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 798  
 Ser Glu Leu Tyr Ser Ser Tyr Leu Gln Pro Cys Leu Asn Met Ser Ile  
 1 5 10 15  
 Val Arg Asn Ser Ala Leu Pro Leu Pro Cys Leu Ser Arg Ser Glu Thr  
 20 25 30  
 Phe Lys Lys Val Arg Ser His Met Lys Phe Met Lys Val Leu Thr Pro  
 35 40 45  
 Trp Ile Tyr Arg Lys Asp Leu Trp Val Thr Ala Phe Leu Leu Thr Ala  
 50 55 60  
 Ile Pro Gly Ser Phe Ala His Thr Leu Val Asp Ile Ala Gly Glu Pro  
 65 70 75 80  
 Arg His Ala Ala Gln Ala Thr Gly Val Ser Gly Asp Gly Lys Ile Val  
 85 90 95  
 Ile Gly Met Lys Val Pro Asp Asp Pro Phe Ala Ile Thr Val Gly Phe  
 100 105 110  
 Gln Tyr Ile Asp Gly His Leu Gln Pro Leu Glu Ala Val Arg Pro Gln  
 115 120 125  
 Cys Ser Val Tyr Pro Asn Gly Ile Thr Pro Asp Gly Thr Val Ile Val  
 130 135 140  
 Gly Thr Asn Tyr Ala Ile Gly Met Gly Ser Val Ala Val Lys Trp Val  
 145 150 155 160  
 Asn Gly Lys Val Ser Glu Leu Pro Met Leu Pro Asp Thr Leu Asp Ser  
 165 170 175  
 Val Ala Ser Ala Val Ser Ala Asp Gly Arg Val Ile Gly Gly Asn Arg  
 180 185 190  
 Asn Ile Asn Leu Gly Ala Ser Val Ala Val Lys Trp Glu Asp Asp Val  
 195 200 205  
 Ile Thr Gln Leu Pro Ser Leu Pro Asp Ala Met Asn Ala Cys Val Asn  
 210 215 220  
 Gly Ile Ser Ser Asp Gly Ser Ile Ile Val Gly Thr Met Val Asp Val  
 225 230 235 240  
 Ser Trp Arg Asn Thr Ala Val Gln Trp Ile Gly Asp Gln Leu Ser Val  
 245 250 255  
 Ile Gly Thr Leu Gly Gly Thr Thr Ser Val Ala Ser Ala Ile Ser Thr  
 260 265 270  
 Asp Gly Thr Val Ile Val Gly Gly Ser Glu Asn Ala Asp Ser Gln Thr  
 275 280 285  
 His Ala Tyr Ala Tyr Lys Asn Gly Val Met Ser Asp Ile Gly Thr Leu  
 290 295 300  
 Gly Gly Phe Tyr Ser Leu Ala His Ala Val Ser Ser Asp Gly Ser Val  
 305 310 315 320  
 Ile Val Gly Val Ser Thr Asn Ser Glu His Arg Tyr His Ala Phe Gln  
 325 330 335  
 Tyr Ala Asp Gly Gln Met Val Asp Leu Gly Thr Leu Gly Gly Pro Glu  
 340 345 350  
 Ser Tyr Ala Gln Gly Val Ser Gly Asp Gly Lys Val Ile Val Gly Arg  
 355 360 365  
 Ala Gln Val Pro Ser Gly Asp Trp His Ala Phe Leu Cys Pro Phe Gln  
 370 375 380

Ala Pro Ser Pro Ala Pro Val His Gly Gly Ser Thr Val Val Thr Ser  
 385 390 395 400  
 Gln Asn Pro Arg Gly Met Val Asp Ile Asn Ala Thr Tyr Ser Ser Leu  
 405 410 415  
 Lys Asn Ser Gln Gln Gln Leu Gln Arg Leu Leu Ile Gln His Ser Ala  
 420 425 430  
 Lys Val Glu Ser Val Ser Ser Gly Ala Pro Ser Phe Thr Ser Val Lys  
 435 440 445  
 Gly Ala Ile Ser Lys Gln Ser Pro Ala Val Gln Asn Asp Val Gln Lys  
 450 455 460  
 Gly Thr Phe Leu Ser Tyr Arg Ser Gln Val His Gly Asn Val Gln Asn  
 465 470 475 480  
 Gln Gln Leu Leu Thr Gly Ala Phe Met Asp Trp Lys Leu Ala Ser Ala  
 485 490 495  
 Pro Lys Cys Gly Phe Lys Val Ala Leu His Tyr Gly Ser Gln Asp Ala  
 500 505 510  
 Leu Val Glu Arg Ala Ala Leu Pro Tyr Thr Glu Gln Gly Leu Gly Ser  
 515 520 525  
 Ser Val Leu Ser Gly Phe Gly Gly Gln Val Gln Gly Arg Tyr Asp Phe  
 530 535 540  
 Asn Leu Gly Glu Thr Val Val Leu Gln Pro Phe Met Gly Ile Gln Val  
 545 550 555 560  
 Leu His Leu Ser Arg Glu Gly Tyr Ser Glu Lys Asn Val Arg Phe Pro  
 565 570 575  
 Val Ser Tyr Asp Ser Val Ala Tyr Ser Ala Ala Thr Ser Phe Met Gly  
 580 585 590  
 Ala His Val Phe Ala Ser Leu Ser Pro Lys Met Ser Thr Ala Ala Thr  
 595 600 605  
 Leu Gly Val Glu Arg Asp Leu Asn Ser His Ile Asp Glu Phe Lys Gly  
 610 615 620  
 Ser Val Ser Ala Met Gly Asn Phe Val Leu Glu Asn Ser Thr Val Ser  
 625 630 635 640  
 Val Leu Arg Pro Phe Ala Ser Leu Ala Met Tyr Tyr Asp Val Arg Gln  
 645 650 655  
 Gln Gln Leu Val Thr Leu Ser Val Val Met Asn Gln Gln Pro Leu Thr  
 660 665 670  
 Gly Thr Leu Ser Leu Val Ser Gln Ser Ser Tyr Asn Leu Ser Phe  
 675 680 685

<210> 799

<211> 381

<212> PRT

<213> Chlamydia pneumoniae

<400> 799

Val Leu Ile Leu Thr Trp Ile Asn Val Leu Thr Lys Leu Gly Leu Asn  
 1 5 10 15  
 Met Ser Lys Lys Ile Lys Val Leu Gly His Leu Thr Leu Cys Thr Leu  
 20 25 30  
 Phe Arg Gly Val Leu Cys Ala Ala Leu Ser Asn Ile Gly Tyr Ala  
 35 40 45  
 Ser Thr Ser Gln Glu Ser Pro Tyr Gln Lys Ser Ile Glu Asp Trp Lys  
 50 55 60  
 Gly Tyr Thr Phe Thr Asp Leu Glu Leu Leu Ser Lys Glu Gly Trp Ser  
 65 70 75 80  
 Glu Ala His Ala Val Ser Gly Asn Gly Ser Arg Ile Val Gly Ala Ser  
 85 90 95  
 Gly Ala Gly Gln Gly Ser Val Thr Ala Val Ile Trp Glu Ser His Leu  
 100 105 110  
 Ile Lys His Leu Gly Thr Leu Gly Gly Glu Ala Ser Ser Ala Glu Gly  
 115 120 125

Ile Ser Lys Asp Gly Glu Val Val Val Gly Trp Ser Asp Thr Arg Glu  
 130 135 140  
 Gly Tyr Thr His Ala Phe Val Phe Asp Gly Arg Asp Met Lys Asp Leu  
 145 150 155 160  
 Gly Thr Leu Gly Ala Thr Tyr Ser Val Ala Arg Gly Val Ser Gly Asp  
 165 170 175  
 Gly Ser Ile Ile Val Gly Val Ser Ala Thr Ala Arg Gly Glu Asp Tyr  
 180 185 190  
 Gly Trp Gln Val Gly Val Lys Trp Glu Lys Gly Lys Ile Lys Gln Leu  
 195 200 205  
 Lys Leu Leu Pro Gln Gly Leu Trp Ser Glu Ala Asn Ala Ile Ser Glu  
 210 215 220  
 Asp Gly Thr Val Ile Val Gly Arg Gly Glu Ile Ser Arg Asn His Ile  
 225 230 235 240  
 Val Ala Val Lys Trp Asn Lys Asn Ala Val Tyr Ser Leu Gly Thr Leu  
 245 250 255  
 Gly Gly Ser Val Ala Ser Ala Glu Ala Ile Ser Ala Asn Gly Lys Val  
 260 265 270  
 Ile Val Gly Trp Ser Thr Thr Asn Asn Gly Glu Thr His Ala Phe Met  
 275 280 285  
 His Lys Asp Glu Thr Met His Asp Leu Gly Thr Leu Gly Gly Phe  
 290 295 300  
 Ser Val Ala Thr Gly Val Ser Ala Asp Gly Arg Ala Ile Val Gly Phe  
 305 310 315 320  
 Ser Ala Val Lys Thr Gly Glu Ile His Ala Phe Tyr Tyr Ala Glu Gly  
 325 330 335  
 Glu Met Glu Asp Leu Thr Thr Leu Gly Gly Glu Glu Ala Arg Val Phe  
 340 345 350  
 Asp Ile Ser Ser Glu Gly Asn Asp Ile Ile Gly Ser Ile Lys Thr Asp  
 355 360 365  
 Ala Gly Ala Glu Arg Ala Tyr Leu Phe His Ile His Lys  
 370 375 380

<210> 800

<211> 349

<212> PRT

<213> Chlamydia pneumoniae

<400> 800

Val Val Phe Glu Ile Ile Phe Val Val Arg Val Pro Met Lys Lys Thr  
 1 5 10 15  
 Cys Cys Gln Asn Tyr Arg Ser Ile Gly Val Val Phe Ser Val Val Leu  
 20 25 30  
 Phe Val Leu Thr Thr Gln Thr Leu Phe Ala Gly His Phe Ile Asp Ile  
 35 40 45  
 Gly Thr Ser Gly Leu Tyr Ser Trp Ala Arg Gly Val Ser Gly Asp Gly  
 50 55 60  
 Arg Val Val Val Gly Tyr Glu Gly Gly Asn Ala Phe Lys Tyr Val Asp  
 65 70 75 80  
 Gly Glu Lys Phe Leu Leu Glu Gly Leu Val Pro Arg Ser Glu Ala Leu  
 85 90 95  
 Val Phe Lys Ala Ser Tyr Asp Gly Ser Val Ile Ile Gly Ile Ser Asp  
 100 105 110  
 Gln Asp Pro Ser Cys Arg Ala Val Lys Trp Val Asn Gly Ala Leu Val  
 115 120 125  
 Asp Leu Gly Ile Phe Ser Glu Gly Met Gln Ser Phe Ala Glu Gly Val  
 130 135 140  
 Ser Ser Asp Gly Lys Thr Ile Val Gly Cys Leu Tyr Ser Asp Asp Thr  
 145 150 155 160  
 Glu Thr Asn Phe Ala Val Lys Trp Asp Glu Thr Gly Met Val Val Leu  
 165 170 175

Pro Asn Leu Pro Glu Asp Arg His Ser Cys Ala Trp Asp Ala Ser Glu  
 180 185 190  
 Asp Gly Ser Val Ile Val Gly Asp Ala Met Gly Ser Glu Glu Ile Ala  
 195 200 205  
 Lys Ala Val Tyr Trp Lys Asp Gly Glu Gln His Leu Leu Ser Asn Ile  
 210 215 220  
 Pro Gly Ala Lys Arg Ser Ser Ala His Ala Val Ser Lys Asp Gly Ser  
 225 230 235 240  
 Phe Ile Val Gly Glu Phe Ile Ser Glu Glu Asn Glu Val His Ala Phe  
 245 250 255  
 Val Tyr His Asn Gly Val Ile Lys Asp Ile Gly Thr Leu Gly Gly Asp  
 260 265 270  
 Tyr Ser Val Ala Thr Gly Val Ser Arg Asp Gly Lys Val Ile Val Gly  
 275 280 285  
 His Ser Thr Arg Thr Asp Gly Glu Tyr Arg Ala Phe Lys Tyr Val Asp  
 290 295 300  
 Gly Arg Met Ile Asp Leu Gly Thr Leu Gly Gly Ser Ala Ser Phe Ala  
 305 310 315 320  
 Phe Gly Val Ser Asp Asp Gly Lys Thr Ile Val Gly Lys Phe Glu Thr  
 325 330 335  
 Glu Leu Gly Glu Cys His Ala Phe Ile Tyr Leu Asp Asp  
 340 345

<210> 801  
 <211> 354  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 801  
 Lys Arg Glu Glu Asn Met Ala Ala Ile Lys Gln Ile Leu Arg Ser Met  
 1 5 10 15  
 Leu Ser Gln Ser Ser Leu Trp Met Val Leu Phe Ser Leu Tyr Ser Leu  
 20 25 30  
 Ser Gly Tyr Cys Tyr Val Ile Thr Asp Lys Pro Glu Asp Asp Phe His  
 35 40 45  
 Ser Ser Ser Ala Val Lys Trp Asp His Trp Gly Lys Thr Thr Leu Ser  
 50 55 60  
 Arg Leu Ser Asn Lys Lys Ala Ser Ala Lys Ala Val Ser Gly Thr Gly  
 65 70 75 80  
 Ala Thr Thr Val Gly Phe Ile Lys Asp Thr Trp Ser Arg Thr Tyr Ala  
 85 90 95  
 Val Arg Trp Asn Tyr Trp Gly Thr Lys Glu Leu Pro Thr Ser Ser Trp  
 100 105 110  
 Val Lys Lys Ser Lys Ala Thr Gly Ile Ser Ser Asp Gly Ser Ile Ile  
 115 120 125  
 Ala Gly Ile Val Glu Asn Glu Leu Ser Gln Ser Phe Ala Val Thr Trp  
 130 135 140  
 Lys Asn Asn Glu Met Tyr Leu Leu Pro Ser Thr Trp Ala Val Gln Ser  
 145 150 155 160  
 Lys Ala Tyr Gly Ile Ser Ser Asp Gly Ser Val Ile Val Gly Ser Ala  
 165 170 175  
 Lys Asp Ala Trp Ser Arg Thr Phe Ala Val Lys Trp Thr Gly His Glu  
 180 185 190  
 Ala Gln Val Leu Pro Val Gly Trp Ala Val Lys Ser Val Ala Asn Ser  
 195 200 205  
 Val Ser Ala Asn Gly Ser Ile Ile Val Gly Ser Val Gln Asp Ala Ser  
 210 215 220  
 Gly Ile Leu Tyr Ala Val Lys Trp Glu Gly Asn Thr Ile Thr His Leu  
 225 230 235 240  
 Gly Thr Leu Gly Gly Tyr Ser Ala Ile Ala Lys Ala Val Ser Asn Asn  
 245 250 255

Gly Lys Val Ile Val Gly Arg Ser Glu Thr Tyr Tyr Gly Glu Val His  
 260 265 270  
 Ala Phe Cys His Lys Asn Gly Val Met Ser Asp Leu Gly Thr Leu Gly  
 275 280 285  
 Gly Ser Tyr Ser Ala Ala Lys Gly Val Ser Ala Thr Gly Lys Val Ile  
 290 295 300  
 Val Gly Met Ser Thr Thr Ala Asn Gly Lys Leu His Ala Phe Lys Tyr  
 305 310 315 320  
 Val Gly Gly Arg Met Ile Asp Leu Gly Glu Tyr Ser Trp Lys Glu Ala  
 325 330 335  
 Cys Ala Asn Ala Val Ser Ile Asp Gly Glu Ile Ile Val Gly Val Gln  
 340 345 350  
 Ser Glu

<210> 802  
 <211> 434  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 802  
 Arg Lys Glu Ile Lys Ile Met Phe Glu Ala Val Ile Ala Asp Ile Gln  
 1 5 10 15  
 Ala Arg Glu Ile Leu Asp Ser Arg Gly Tyr Pro Thr Leu His Val Lys  
 20 25 30  
 Val Thr Thr Ser Thr Gly Ser Val Gly Glu Ala Arg Val Pro Ser Gly  
 35 40 45  
 Ala Ser Thr Gly Lys Lys Glu Ala Leu Glu Phe Arg Asp Thr Asp Ser  
 50 55 60  
 Pro Arg Tyr Gln Gly Lys Gly Val Leu Gln Ala Val Lys Asn Val Lys  
 65 70 75 80  
 Glu Ile Leu Phe Pro Leu Val Lys Gly Cys Ser Val Tyr Glu Gln Ser  
 85 90 95  
 Leu Ile Asp Ser Leu Met Met Asp Ser Asp Gly Ser Pro Asn Lys Glu  
 100 105 110  
 Thr Leu Gly Ala Asn Ala Ile Leu Gly Val Ser Leu Ala Thr Ala His  
 115 120 125  
 Ala Ala Ala Ala Thr Leu Arg Arg Pro Leu Tyr Arg Tyr Leu Gly Gly  
 130 135 140  
 Cys Phe Ala Cys Ser Leu Pro Cys Pro Met Met Asn Leu Ile Asn Gly  
 145 150 155 160  
 Gly Met His Ala Asp Asn Gly Leu Glu Phe Gln Glu Phe Met Ile Arg  
 165 170 175  
 Pro Ile Gly Ala Ser Ser Ile Lys Glu Ala Val Asn Met Gly Ala Asp  
 180 185 190  
 Val Phe His Thr Leu Lys Lys Leu Leu His Glu Arg Gly Leu Ser Thr  
 195 200 205  
 Gly Val Gly Asp Glu Gly Gly Phe Ala Pro Asn Leu Ala Ser Asn Glu  
 210 215 220  
 Glu Ala Leu Glu Leu Leu Leu Ala Ile Glu Lys Ala Gly Phe Thr  
 225 230 235 240  
 Pro Gly Lys Asp Ile Ser Leu Ala Leu Asp Cys Ala Ala Ser Ser Phe  
 245 250 255  
 Tyr Asn Val Lys Thr Gly Thr Tyr Asp Gly Arg His Tyr Glu Glu Gln  
 260 265 270  
 Ile Ala Ile Leu Ser Asn Leu Cys Asp Arg Tyr Pro Ile Asp Ser Ile  
 275 280 285  
 Glu Asp Gly Leu Ala Glu Glu Asp Tyr Asp Gly Trp Ala Leu Leu Thr  
 290 295 300  
 Glu Val Leu Gly Glu Lys Val Gln Ile Val Gly Asp Asp Leu Phe Val  
 305 310 315 320



Thr Asn Pro Glu Leu Ile Leu Glu Gly Ile Ser Asn Gly Leu Ala Asn  
 325 330 335  
 Ser Val Leu Ile Lys Pro Asn Gln Ile Gly Thr Leu Thr Glu Thr Val  
 340 345 350  
 Tyr Ala Ile Lys Leu Ala Gln Met Ala Gly Tyr Thr Thr Ile Ile Ser  
 355 360 365  
 His Arg Ser Gly Glu Thr Thr Asp Thr Thr Ile Ala Asp Leu Ala Val  
 370 375 380  
 Ala Phe Asn Ala Gly Gln Ile Lys Thr Gly Ser Leu Ser Arg Ser Glu  
 385 390 395 400  
 Arg Val Ala Lys Tyr Asn Arg Leu Met Glu Ile Glu Glu Glu Leu Gly  
 405 410 415  
 Ser Glu Ala Ile Phe Thr Asp Ser Asn Val Phe Ser Tyr Glu Asp Ser  
 420 425 430  
 Glu Glu

<210> 803  
 <211> 661  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 803  
 Ile Ile Phe Thr Met Thr Phe Gln Leu His Ala Pro Phe Ala Pro Cys  
 1 5 10 15  
 Gly Asp Gln Pro Glu Ala Ile Ala Arg Leu Ser Ala Gly Val Arg Asn  
 20 25 30  
 Gln Val Lys Ser Gln Val Leu Leu Gly Thr Thr Gly Ser Gly Lys Thr  
 35 40 45  
 Phe Thr Ile Ala Asn Val Val Ala Asn Val Asn Leu Pro Thr Leu Val  
 50 55 60  
 Leu Ala His Asn Lys Thr Leu Ala Ala Gln Leu Tyr Gln Glu Phe Arg  
 65 70 75 80  
 Glu Phe Phe Pro Asn Asn Ala Val Glu Tyr Phe Ile Ser Tyr Tyr Asp  
 85 90 95  
 Tyr Tyr Gln Pro Glu Ala Tyr Ile Ala Arg Ser Asp Thr Tyr Ile Glu  
 100 105 110  
 Lys Ser Leu Leu Ile Asn Asp Glu Ile Asp Lys Leu Arg Leu Ser Ala  
 115 120 125  
 Thr Arg Ser Ile Leu Glu Arg Arg Asp Thr Leu Ile Val Ser Ser Val  
 130 135 140  
 Ser Cys Ile Tyr Gly Ile Gly Ser Pro Glu Asn Tyr Thr Ser Met Ala  
 145 150 155 160  
 Leu Val Leu Glu Val Gly Lys Glu Tyr Pro Arg Asn Ile Leu Thr Ala  
 165 170 175  
 Gln Leu Val Lys Met His Tyr Gln Ala Ser Pro Ile Pro Gln Arg Ser  
 180 185 190  
 Ala Phe Arg Glu Arg Gly Ser Val Ile Asp Ile Phe Pro Ala Tyr Glu  
 195 200 205  
 Ser Glu Leu Ala Leu Arg Leu Glu Phe Leu Asn Asp Thr Leu Thr Ser  
 210 215 220  
 Ile Glu Tyr Ser Asp Pro Leu Thr Met Ile Pro Lys Glu Ser Val Pro  
 225 230 235 240  
 Ser Ala Thr Leu Tyr Pro Gly Ser His Tyr Val Ile Pro Glu Ala Ile  
 245 250 255  
 Arg Glu Gln Ala Ile Arg Thr Ile Gln Glu Glu Leu Glu Glu Arg Met  
 260 265 270  
 Ala Phe Phe Asp Asp Arg Pro Ile Glu Lys Asp Arg Ile Phe His Arg  
 275 280 285  
 Thr Thr His Asp Ile Glu Met Ile Lys Glu Ile Gly Phe Cys Lys Gly  
 290 295 300

Ile Glu Asn Tyr Ser Arg His Phe Thr Gly Ala Pro Pro Gly Ala Pro  
 305 310 315 320  
 Pro Thr Cys Leu Leu Asp Tyr Phe Pro Glu Asp Phe Leu Leu Ile Ile  
 325 330 335  
 Asp Glu Ser His Gln Thr Leu Pro Gln Ile Arg Ala Met Tyr Arg Gly  
 340 345 350  
 Asp Gln Ser Arg Lys Gln Ser Leu Val Glu Tyr Gly Phe Arg Leu Pro  
 355 360 365  
 Ser Ala Phe Asp Asn Arg Pro Leu Thr Tyr Glu Glu Ala Gln Lys Tyr  
 370 375 380  
 Phe Arg Lys Val Ile Tyr Val Ser Ala Thr Pro Gly Asp Thr Glu Val  
 385 390 395 400  
 Gln Glu Ser Ser Gly His Ile Val Gln Gln Ile Ile Arg Pro Thr Gly  
 405 410 415  
 Ile Pro Asp Pro Met Pro Glu Ile Arg Pro Ala Thr Gly Gln Val Asp  
 420 425 430  
 Asp Leu Leu Glu Glu Ile Arg Leu Arg Leu Ser Gln Lys His Glu Lys  
 435 440 445  
 Ile Leu Val Ile Ser Ile Thr Lys Lys Leu Ala Glu Asp Met Ala Gly  
 450 455 460  
 Phe Leu Ser Glu Leu Glu Ile Pro Ala Ala Tyr Leu His Ser Gly Ile  
 465 470 475 480  
 Glu Thr Ala Glu Arg Thr Gln Ile Leu Thr Asp Leu Arg Ser Gly Val  
 485 490 495  
 Ile Asp Val Leu Ile Gly Val Asn Leu Leu Arg Glu Gly Leu Asp Leu  
 500 505 510  
 Pro Glu Val Ser Leu Val Ala Ile Leu Asp Ala Asp Lys Glu Gly Phe  
 515 520 525  
 Leu Arg Ser Thr Ser Ser Leu Ile Gln Phe Cys Gly Arg Ala Ala Arg  
 530 535 540  
 Asn Ile Asn Gly Lys Val Ile Phe Tyr Ala Asp Gln Lys Thr Arg Ser  
 545 550 555 560  
 Ile Glu Glu Thr Leu Arg Glu Thr Glu Arg Arg Arg Gln Ile Gln Leu  
 565 570 575  
 Asp Tyr Asn Lys Glu His Asn Ile Val Pro Lys Pro Ile Ile Lys Ala  
 580 585 590  
 Ile Phe Ala Asn Pro Ile Leu Gln Thr Ser Lys Asp Ser Glu Ser Pro  
 595 600 605  
 Lys Glu Ser Gln Arg Pro Leu Ser Lys Glu Asp Leu Glu Glu Gln Ile  
 610 615 620  
 Lys Lys Tyr Glu Ala Leu Met Gln Arg Ala Ala Lys Glu Phe Arg Phe  
 625 630 635 640  
 Asn Glu Ala Ala Lys Tyr Arg Asp Ala Met Gln Ala Cys Lys Glu Gln  
 645 650 655  
 Leu Leu Tyr Leu Phe  
 660

<210> 804  
 <211> 351  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 804  
 Ser Thr Ser Ile Ala Asp Val Met Asn Lys Lys Arg Val Leu Thr  
 1 5 10 15  
 Gly Asp Arg Pro Thr Gly Lys Leu His Leu Gly His Trp Val Gly Ser  
 20 25 30  
 Ile Lys Asn Arg Leu Glu Leu Gln Asn Ser Pro Glu Tyr Asp Cys Phe  
 35 40 45  
 Phe Ile Ile Ala Asp Leu His Thr Leu Thr Thr Lys Ile Arg Lys Glu  
 50 55 60

Glu Val Leu Asp Val Asp Asn His Ile Tyr Glu Val Leu Ala Asp Trp  
 65 70 75 80  
 Leu Ser Val Gly Ile Asp Pro Thr Lys Ser Ile Ile Tyr Leu Gln Ser  
 85 90 95  
 Ala Ile Pro Glu Ile Tyr Glu Leu His Leu Leu Phe Ser Met Leu Ile  
 100 105 110  
 Ser Ile Asn Arg Val Met Gly Ile Pro Ser Leu Lys Asp Met Ala Arg  
 115 120 125  
 Asn Ala Ser Ile Glu Glu Gly Ser Leu Ser Tyr Gly Leu Ile Gly Tyr  
 130 135 140  
 Pro Ile Leu Gln Ser Ala Asp Ile Leu Leu Ala Lys Ala Gln Phe Val  
 145 150 155 160  
 Pro Val Gly Lys Asp Asn Glu Ala His Val Glu Leu Thr Arg Asp Ile  
 165 170 175  
 Ala Arg Asn Phe Asn Arg Leu Tyr Gly Gln Val Phe Pro Glu Pro Glu  
 180 185 190  
 Val Leu Gln Gly Glu Leu Thr Ser Leu Val Gly Ile Asp Gly Gln Gly  
 195 200 205  
 Lys Met Ser Lys Ser Ala Asn Asn Ala Ile Tyr Leu Ser Asp Ser Asp  
 210 215 220  
 Ala Thr Ile Thr Glu Lys Val Arg Lys Met Tyr Thr Asp Pro Asn Arg  
 225 230 235 240  
 Ile Arg Ala Thr Thr Pro Gly Arg Val Glu Gly Asn Pro Leu Phe Ile  
 245 250 255  
 Tyr His Asp Ile Phe Asn Pro His Lys Asp Glu Val Glu Glu Phe Lys  
 260 265 270  
 Ala Arg Tyr Arg Gln Gly Cys Ile Lys Asp Ile Glu Val Lys Ala Arg  
 275 280 285  
 Leu Ala Glu Glu Leu Ile His Phe Leu Lys Pro Ile Lys Glu Arg Arg  
 290 295 300  
 Ser Glu Phe Leu Ser Lys Pro Leu Ala Leu Gln Asn Val Leu Glu Asp  
 305 310 315 320  
 Gly Thr His Lys Met Arg Glu Val Ala Lys Val Thr Met Glu Glu Val  
 325 330 335  
 His Asp Lys Phe Gly Phe Ser His Lys Trp Arg Ser Leu Leu Lys  
 340 345 350

<210> 805

<211> 185

<212> PRT

<213> Chlamydia pneumoniae

<400> 805

Phe Met Ala Ala Lys Thr Lys Thr Leu Glu Leu Glu Asp Asn Val Phe  
 1 5 10 15  
 Leu Leu Leu Glu Gly Asn Leu Lys Arg Ile Phe Ala Thr Pro Ile Gly  
 20 25 30  
 Tyr Thr Thr Phe Arg Glu Phe Gln Asn Val Val Phe Asn Cys Ala Asn  
 35 40 45  
 Gly Gln Gln Glu Ile Ala Asn Phe Phe Phe Glu Met Leu Ile Asn Gly  
 50 55 60  
 Lys Leu Thr Gln Glu Leu Ala Pro Gln Gln Lys Gln Ala Ala His Ser  
 65 70 75 80  
 Leu Ile Ala Glu Phe Met Met Pro Ile Arg Val Ala Lys Asp Ile His  
 85 90 95  
 Glu Arg Gly Glu Phe Ile Asn Phe Ile Thr Ser Asp Met Leu Thr Gln  
 100 105 110  
 Gln Glu Arg Cys Ile Phe Leu Asn Arg Leu Ala Arg Val Asp Gly Gln  
 115 120 125  
 Glu Phe Leu Leu Met Thr Asp Val Gln Asn Thr Cys His Leu Ile Arg  
 130 135 140

His Leu Leu Ala Arg Leu Leu Glu Ala Gln Lys Asn Pro Val Gly Glu  
 145 150 155 160  
 Lys Asn Leu Gln Glu Ile Gln Glu Glu Ile Thr Ser Leu Lys Asn His  
 165 170 175  
 Phe Asp Glu Leu Thr Lys Ala Leu Gln  
 180 185

<210> 806  
 <211> 255  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 806  
 Glu Ile Phe Ser Ser Met Gly Asn Leu Lys Thr Leu Leu Glu Ser Arg  
 1 5 10 15  
 Phe Lys Lys Asn Thr Pro Thr Lys Met Glu Ala Leu Ala Arg Lys Arg  
 20 25 30  
 Met Glu Gly Asp Pro Ser Pro Leu Ala Val Arg Leu Ser Asn Pro Thr  
 35 40 45  
 Leu Ser Ser Lys Glu Lys Glu Gln Leu Arg His Leu Leu Gln His Tyr  
 50 55 60  
 Asn Phe Arg Glu Gln Ile Glu Glu Pro Asp Leu Thr Gln Leu Cys Thr  
 65 70 75 80  
 Leu Ser Ala Glu Val Lys Gln Ile His His Gln Ser Val Leu Leu His  
 85 90 95  
 Gly Glu Arg Ile Thr Lys Val Arg Asp Leu Leu Lys Ser Tyr Arg Glu  
 100 105 110  
 Gly Ala Phe Ser Ser Trp Leu Leu Leu Thr Tyr Gly Asn Arg Gln Thr  
 115 120 125  
 Pro Tyr Asn Phe Leu Val Tyr Tyr Glu Leu Phe Thr Leu Leu Pro Glu  
 130 135 140  
 Pro Leu Lys Ile Glu Met Glu Lys Met Pro Arg Gln Ala Val Tyr Thr  
 145 150 155 160  
 Leu Ala Ser Arg Gln Gly Pro Gln Glu Lys Lys Glu Glu Ile Ile Arg  
 165 170 175  
 Asn Tyr Arg Gly Glu Arg Lys Ser Glu Leu Leu Asp Arg Ile Arg Lys  
 180 185 190  
 Glu Phe Pro Leu Val Glu Thr Asp Cys Arg Lys Thr Ser Pro Val Lys  
 195 200 205  
 Gln Ala Leu Ala Met Leu Thr Lys Gly Ser Gln Ile Leu Thr Lys Cys  
 210 215 220  
 Thr Ser Leu Ser Ser Asp Glu Gln Ile Ile Leu Glu Lys Leu Ile Lys  
 225 230 235 240  
 Lys Leu Glu Lys Val Lys Ser Asn Leu Phe Pro Asp Thr Lys Val  
 245 250 255

<210> 807  
 <211> 260  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 807  
 Gly Tyr Ala Ser Arg Met Lys Thr Ile Ala Val Asn Ser Phe Lys Gly  
 1 5 10 15  
 Gly Thr Ala Lys Thr Ser Thr Thr Leu His Leu Gly Ala Ala Leu Ala  
 20 25 30  
 Gln Tyr His Gln Ala Arg Val Leu Leu Ile Asp Phe Asp Ala Gln Ala  
 35 40 45  
 Asn Leu Thr Ser Gly Leu Gly Leu Asp Pro Asp Cys Tyr Asp Ser Leu  
 50 55 60

Ala Val Val Leu Gln Gly Glu Lys Glu Ile Gln Glu Val Ile Arg Pro  
 65 70 75 80  
 Ile Gln Asp Thr Gln Leu Asp Leu Ile Pro Ala Asp Thr Trp Leu Glu  
 85 90 95  
 Arg Ile Glu Val Ser Gly Asn Leu Ala Ala Asp Arg Tyr Ser His Glu  
 100 105 110  
 Arg Leu Lys Tyr Val Leu Gly Ser Val Gln Asp Lys Tyr Asp Tyr Val  
 115 120 125  
 Ile Ile Asp Thr Pro Pro Ser Leu Cys Trp Leu Thr Glu Ser Ala Leu  
 130 135 140  
 Ile Ala Ala Asp Tyr Ala Leu Ile Cys Ala Thr Pro Glu Phe Tyr Ser  
 145 150 155 160  
 Val Lys Gly Leu Glu Arg Leu Ala Gly Phe Ile Gln Gly Ile Ser Ala  
 165 170 175  
 Arg His Pro Leu Thr Ile Leu Gly Val Ala Leu Ser Phe Trp Asn Cys  
 180 185 190  
 Arg Gly Lys Asn Asn Ser Ala Phe Ala Glu Leu Ile His Lys Thr Phe  
 195 200 205  
 Pro Gly Lys Leu Leu Asn Thr Lys Ile Arg Arg Asp Ile Thr Val Ser  
 210 215 220  
 Glu Ala Ala Ile His Gly Lys Pro Val Phe Ala Thr Ser Pro Ser Ala  
 225 230 235 240  
 Arg Ala Ser Glu Asp Tyr Phe Asn Leu Thr Lys Glu Leu Leu Ile Leu  
 245 250 255  
 Leu Arg Asp Ile  
 260

<210> 808

<211> 650

<212> PRT

<213> Chlamydia pneumoniae

<400> 808

Asn Ala Asn Asn Glu Ser Pro Pro Asn Met Glu Ala Trp Asn Lys Met  
 1 5 10 15  
 Ile Gln Val Thr Cys Asp Gln Lys Asn Tyr Glu Val Leu Glu Gly Thr  
 20 25 30  
 Thr Ala Ala Glu Leu Ala Lys Gln Leu Lys Asn Ser His Gln Phe Ile  
 35 40 45  
 Gly Val Leu Ile Asn Glu Arg Pro Arg Asp Leu Ser Thr His Leu Asn  
 50 55 60  
 Glu Gly Asp Thr Leu Val Phe Leu Thr Ser Glu Asp Pro Glu Gly Arg  
 65 70 75 80  
 Glu Ile Phe Leu His Thr Ser Ala His Leu Leu Ala Gln Ala Val Leu  
 85 90 95  
 Arg Leu Trp Pro Asp Ala Ile Pro Thr Ile Gly Pro Val Ile Asp His  
 100 105 110  
 Gly Phe Tyr Tyr Asp Phe Ala Asn Leu Ser Ile Ser Glu Ser Asp Phe  
 115 120 125  
 Pro Leu Ile Glu Asp Thr Val Lys Gln Ile Val Asp Glu Lys Leu Ala  
 130 135 140  
 Ile Ser Arg Phe Thr Tyr Gly Asp Lys Gln Gln Ala Leu Ala Gln Phe  
 145 150 155 160  
 Pro Gln Asn Pro Phe Lys Thr Glu Leu Ile Arg Glu Leu Pro Glu Asn  
 165 170 175  
 Glu Glu Ile Ser Ala Tyr Ser Gln Gly Glu Phe Phe Asp Leu Cys Arg  
 180 185 190  
 Gly Pro His Leu Pro Ser Thr Ala His Val Lys Ala Phe Lys Val Leu  
 195 200 205  
 Arg Thr Ser Ala Ala Tyr Trp Arg Gly Asp Pro Ser Arg Glu Ser Leu  
 210 215 220

Val Arg Ile Tyr Gly Thr Ser Phe Pro Thr Ser Lys Glu Leu Arg Ala  
 225 230 235 240  
 His Leu Glu Gln Ile Glu Glu Ala Lys Lys Arg Asp His Arg Val Leu  
 245 250 255  
 Gly Ala Lys Leu Asp Leu Phe Ser Gln Gln Glu Ser Ser Pro Gly Met  
 260 265 270  
 Pro Phe Phe His Pro Arg Gly Met Ile Val Trp Asp Ala Leu Ile Arg  
 275 280 285  
 Tyr Trp Lys Gln Leu His Thr Ala Ala Gly Tyr Lys Glu Ile Leu Thr  
 290 295 300  
 Pro Gln Leu Met Asn Arg Gln Leu Trp Glu Val Ser Gly His Trp Asp  
 305 310 315 320  
 Asn Tyr Lys Ala Asn Met Tyr Thr Leu Gln Ile Asp Asp Glu Asp Tyr  
 325 330 335  
 Ala Ile Lys Pro Met Asn Cys Pro Gly Cys Met Leu Tyr Tyr Lys Thr  
 340 345 350  
 Arg Leu His Ser Tyr Lys Glu Phe Pro Leu Arg Val Ala Glu Val Gly  
 355 360 365  
 His Val His Arg Gln Glu Ala Ser Gly Ala Leu Ser Gly Leu Met Arg  
 370 375 380  
 Val Arg Ala Phe His Gln Asp Asp Ala His Val Phe Leu Thr Pro Glu  
 385 390 395 400  
 Gln Val Glu Glu Glu Thr Leu Asn Ile Leu Gln Leu Val Ser Thr Leu  
 405 410 415  
 Tyr Gly Thr Phe Gly Leu Glu Tyr His Leu Glu Leu Ser Thr Arg Pro  
 420 425 430  
 Glu Lys Asp Thr Ile Gly Asp Asp Ser Leu Trp Glu Leu Ala Thr Asp  
 435 440 445  
 Ala Leu Asn Arg Ala Leu Val Gln Ser Gly Thr Pro Phe Ile Val Arg  
 450 455 460  
 Pro Gly Glu Gly Ala Phe Tyr Gly Pro Lys Ile Asp Ile His Val Lys  
 465 470 475 480  
 Asp Ala Ile Gln Arg Thr Trp Gln Cys Gly Thr Ile Gln Leu Asp Met  
 485 490 495  
 Phe Leu Pro Glu Arg Phe Glu Leu Glu Tyr Thr Thr Ala Gln Gly Thr  
 500 505 510  
 Lys Ser Val Pro Val Met Leu His Arg Ala Leu Phe Gly Ser Ile Glu  
 515 520 525  
 Arg Phe Leu Gly Ile Leu Ile Glu Asn Phe Lys Gly Arg Phe Pro Leu  
 530 535 540  
 Trp Leu Ser Pro Glu Gln Val Arg Ile Ile Thr Val Ala Asp Arg His  
 545 550 555 560  
 Ile Pro Arg Ala Lys Glu Leu Glu Glu Ala Trp Lys Arg Leu Gly Leu  
 565 570 575  
 Val Val Thr Leu Asp Asp Ser Ser Glu Ser Val Ser Lys Lys Ile Arg  
 580 585 590  
 Asn Ala Gln Asn Met Gln Val Asn Tyr Met Ile Thr Leu Gly Asp His  
 595 600 605  
 Glu Ile Asn Glu Asn Val Leu Ala Val Arg Thr Arg Asp Asn Arg Val  
 610 615 620  
 Ile Asn Asp Val Ser Val Glu Arg Phe Leu Asn Thr Ile Leu Glu Glu  
 625 630 635 640  
 Lys Asn Ser Leu Ser Leu Thr Ala Leu Leu  
 645 650

<210> 809

<211> 310

<212> PRT

<213> Chlamydia pneumoniae

<400> 809

Thr	Leu	Gln	Thr	Gly	Leu	His	Met	Ser	Leu	Phe	Leu	Val	Phe	Leu	Thr
1				5					10					15	
Ala	Phe	Ile	Trp	Ser	Ser	Ser	Phe	Ala	Leu	Ser	Lys	Leu	Val	Met	Asn
			20					25					30		
Ala	Ser	Ala	Pro	Ile	Phe	Ala	Thr	Gly	Ala	Arg	Met	Val	Ile	Ala	Gly
		35					40					45			
Ala	Ile	Leu	Ala	Leu	Ala	Ala	Trp	Phe	Arg	Gly	Gly	Phe	Val	Gly	Ile
	50					55					60				
Ser	Lys	Lys	Ile	Phe	Leu	Tyr	Ile	Val	Leu	Leu	Ala	Leu	Thr	Gly	Phe
65					70					75				80	
Tyr	Leu	Thr	Asn	Ile	Phe	Glu	Phe	Ile	Gly	Leu	Gln	Ser	Leu	Ser	Ser
			85						90					95	
Ser	Lys	Thr	Cys	Phe	Ile	Tyr	Gly	Leu	Ser	Pro	Leu	Met	Ser	Ala	Leu
			100					105					110		
Phe	Ser	Tyr	Ile	Gln	Leu	Lys	Glu	Lys	Val	Thr	Leu	Lys	Lys	Val	Leu
			115				120					125			
Gly	Leu	Ser	Leu	Gly	Leu	Val	Ser	Tyr	Ile	Cys	Tyr	Leu	Thr	Phe	Gly
	130					135					140				
Gly	Gly	Gly	Asp	Asp	Ser	Gln	Pro	Trp	Thr	Trp	Gln	Ile	Gly	Leu	Pro
145					150					155				160	
Glu	Leu	Leu	Ile	Leu	Gly	Ala	Ala	Ser	Leu	Ala	Ser	Phe	Gly	Trp	Thr
			165					170						175	
Leu	Leu	Arg	Gln	Ile	Glu	Lys	Gln	Ser	Thr	Leu	Ser	Val	Thr	Ala	Ile
			180					185					190		
Asn	Ala	Tyr	Ala	Met	Leu	Ile	Ala	Gly	Met	Leu	Ser	Ile	Met	His	Ser
		195					200					205			
Ala	Val	Val	Glu	Pro	Trp	Arg	Pro	Leu	Pro	Val	Gln	Asp	Ile	Ser	Gln
	210					215					220				
Phe	Leu	Tyr	Ala	Thr	Leu	Ala	Leu	Val	Val	Ile	Ser	Asn	Leu	Ile	Cys
225					230					235				240	
Tyr	Asn	Leu	Tyr	Ala	Lys	Leu	Leu	Arg	Lys	Tyr	Ser	Ser	Thr	Phe	Leu
			245					250						255	
Ser	Phe	Cys	Asn	Leu	Val	Met	Pro	Leu	Tyr	Ser	Gly	Phe	Tyr	Gly	Trp
		260					265					270			
Ile	Leu	Leu	Gly	Glu	Lys	Gly	Val	Ser	Leu	Gly	Leu	Val	Leu	Ala	Val
	275					280						285			
Ala	Phe	Met	Val	Ala	Gly	Cys	Arg	Leu	Ile	Tyr	His	Glu	Glu	Phe	Arg
	290				295						300				
Gln	Gly	Tyr	Ile	Val	Ser										
305					310										

<210> 810  
 <211> 481  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 810

Leu	Lys	Lys	Leu	Pro	Ser	Trp	Ala	Leu	Lys	Ser	Leu	Lys	Arg	Met	Pro
1				5					10					15	
Gln	Ser	Ala	Glu	Pro	Ser	Leu	Ala	His	Ile	Lys	Pro	Ile	Ile	Phe	Lys
		20						25					30		
Gly	Ala	Cys	Ile	Ala	Met	Thr	Ser	Gly	Val	Ser	Gly	Ser	Ser	Ser	Gln
		35					40					45			
Asp	Pro	Thr	Leu	Ala	Ala	Gln	Leu	Ala	Gln	Ser	Ser	Gln	Lys	Ala	Gly
	50					55					60				
Asn	Ala	Gln	Ser	Gly	His	Asp	Thr	Lys	Asn	Val	Thr	Lys	Gln	Gly	Ala
65					70					75				80	
Gln	Ala	Glu	Val	Ala	Ala	Gly	Gly	Phe	Glu	Asp	Leu	Ile	Gln	Asp	Ala
			85						90					95	

Ser Ala Gln Ser Thr Gly Lys Lys Glu Ala Thr Ser Ser Thr Thr Lys  
 100 105 110  
 Ser Ser Lys Gly Glu Lys Ser Glu Lys Ser Gly Lys Ser Lys Ser Ser  
 115 120 125  
 Thr Ser Val Ala Ser Ala Ser Glu Thr Ala Thr Ala Gln Ala Val Gln  
 130 135 140  
 Gly Pro Lys Gly Leu Arg Gln Asn Asn Tyr Asp Ser Pro Ser Leu Pro  
 145 150 155 160  
 Thr Pro Glu Ala Gln Thr Ile Asn Gly Ile Val Leu Lys Lys Gly Met  
 165 170 175  
 Gly Thr Leu Ala Leu Leu Gly Leu Val Met Thr Leu Met Ala Asn Ala  
 180 185 190  
 Ala Gly Glu Ser Trp Lys Ala Ser Phe Gln Ser Gln Asn Gln Ala Ile  
 195 200 205  
 Arg Ser Gln Val Glu Ser Ala Pro Ala Ile Gly Glu Ala Ile Lys Arg  
 210 215 220  
 Gln Ala Asn His Gln Ala Ser Ala Thr Glu Ala Gln Ala Lys Gln Ser  
 225 230 235 240  
 Leu Ile Ser Gly Ile Val Asn Ile Val Gly Phe Thr Val Ser Val Gly  
 245 250 255  
 Ala Gly Ile Phe Ser Ala Ala Lys Gly Ala Thr Ser Ala Leu Lys Ser  
 260 265 270  
 Ala Ser Phe Ala Lys Glu Thr Gly Ala Ser Ala Ala Gly Gly Ala Ala  
 275 280 285  
 Ser Lys Ala Leu Thr Ser Ala Ser Ser Ser Val Gln Gln Thr Met Ala  
 290 295 300  
 Ser Thr Ala Lys Ala Ala Thr Thr Ala Ala Ser Ser Ala Gly Ser Ala  
 305 310 315 320  
 Ala Thr Lys Ala Ala Ala Asn Leu Thr Asp Asp Met Ala Ala Ala Ala  
 325 330 335  
 Ser Lys Met Ala Ser Asp Gly Ala Ser Lys Ala Ser Gly Gly Leu Phe  
 340 345 350  
 Gly Glu Val Leu Asn Lys Pro Asn Trp Ser Glu Lys Val Ser Arg Gly  
 355 360 365  
 Met Asn Val Val Lys Thr Gln Gly Ala Arg Val Ala Ser Phe Ala Gly  
 370 375 380  
 Asn Ala Leu Ser Ser Ser Met Gln Met Ser Gln Leu Met His Gly Leu  
 385 390 395 400  
 Thr Ala Ala Val Glu Gly Leu Ser Ala Gly Gln Thr Gly Ile Glu Val  
 405 410 415  
 Ala His His Gln Arg Leu Ala Gly Gln Ala Glu Ala Gln Ala Glu Val  
 420 425 430  
 Leu Lys Gln Met Ser Ser Val Tyr Gly Gln Gln Ala Gly Gln Ala Gly  
 435 440 445  
 Gln Leu Gln Glu Gln Ala Met Gln Ser Phe Asn Thr Ala Leu Gln Thr  
 450 455 460  
 Leu Gln Asn Ile Ala Asp Ser Gln Thr Gln Thr Thr Ser Ala Ile Phe  
 465 470 475 480  
 Asn

<210> 811  
 <211> 496  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 811  
 Asp Thr Asn Met Ser Ile Ser Ser Ser Ser Gly Pro Asp Asn Gln Lys  
 1 5 10 15  
 Asn Ile Met Ser Gln Val Leu Thr Ser Thr Pro Gln Gly Val Pro Gln  
 20 25 30



Gln Asp Lys Leu Ser Gly Asn Glu Thr Lys Gln Ile Gln Gln Thr Arg  
 35 40 45  
 Gln Gly Lys Asn Thr Glu Met Glu Ser Asp Ala Thr Ile Ala Gly Ala  
 50 55 60  
 Ser Gly Lys Asp Lys Thr Ser Ser Thr Thr Lys Thr Glu Thr Ala Pro  
 65 70 75 80  
 Gln Gln Gly Val Ala Ala Gly Lys Glu Ser Ser Glu Ser Gln Lys Ala  
 85 90 95  
 Gly Ala Asp Thr Gly Val Ser Gly Ala Ala Thr Thr Ala Ser Asn  
 100 105 110  
 Thr Ala Thr Lys Ile Ala Met Gln Thr Ser Ile Glu Glu Ala Ser Lys  
 115 120 125  
 Ser Met Glu Ser Thr Leu Glu Ser Leu Gln Ser Leu Ser Ala Ala Gln  
 130 135 140  
 Met Lys Glu Val Glu Ala Val Val Val Ala Ala Leu Ser Gly Lys Ser  
 145 150 155 160  
 Ser Gly Ser Ala Lys Leu Glu Thr Pro Glu Leu Pro Lys Pro Gly Val  
 165 170 175  
 Thr Pro Arg Ser Glu Val Ile Glu Ile Gly Leu Ala Leu Ala Lys Ala  
 180 185 190  
 Ile Gln Thr Leu Gly Glu Ala Thr Lys Ser Ala Leu Ser Asn Tyr Ala  
 195 200 205  
 Ser Thr Gln Ala Gln Ala Asp Gln Thr Asn Lys Leu Gly Leu Glu Lys  
 210 215 220  
 Gln Ala Ile Lys Ile Asp Lys Glu Arg Glu Glu Tyr Gln Glu Met Lys  
 225 230 235 240  
 Ala Ala Glu Gln Lys Ser Lys Asp Leu Glu Gly Thr Met Asp Thr Val  
 245 250 255  
 Asn Thr Val Met Ile Ala Val Ser Val Ala Ile Thr Val Ile Ser Ile  
 260 265 270  
 Val Ala Ala Ile Phe Thr Cys Gly Ala Gly Leu Ala Gly Leu Ala Ala  
 275 280 285  
 Gly Ala Ala Val Gly Ala Ala Ala Ala Gly Gly Ala Ala Gly Ala Ala  
 290 295 300  
 Ala Ala Thr Thr Val Ala Thr Gln Ile Thr Val Gln Ala Val Val Gln  
 305 310 315 320  
 Ala Val Lys Gln Ala Val Ile Thr Ala Val Arg Gln Ala Ile Thr Ala  
 325 330 335  
 Ala Ile Lys Ala Ala Val Lys Ser Gly Ile Lys Ala Phe Ile Lys Thr  
 340 345 350  
 Leu Val Lys Ala Ile Ala Lys Ala Ile Ser Lys Gly Ile Ser Lys Val  
 355 360 365  
 Phe Ala Lys Gly Thr Gln Met Ile Ala Lys Asn Phe Pro Lys Leu Ser  
 370 375 380  
 Lys Val Ile Ser Ser Leu Thr Ser Lys Trp Val Thr Val Gly Val Gly  
 385 390 395 400  
 Val Val Val Ala Ala Pro Ala Leu Gly Lys Gly Ile Met Gln Met Gln  
 405 410 415  
 Leu Ser Glu Met Gln Gln Asn Val Ala Gln Phe Gln Lys Glu Val Gly  
 420 425 430  
 Lys Leu Gln Ala Ala Ala Asp Met Ile Ser Met Phe Thr Gln Phe Trp  
 435 440 445  
 Gln Gln Ala Ser Lys Ile Ala Ser Lys Gln Thr Gly Glu Ser Asn Glu  
 450 455 460  
 Met Thr Gln Lys Ala Thr Lys Leu Gly Ala Gln Ile Leu Lys Ala Tyr  
 465 470 475 480  
 Ala Ala Ile Ser Gly Ala Ile Ala Gly Ala His Lys Thr Asn Asn Phe  
 485 490 495

<210> 812  
 <211> 123  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 812  
 Gly Glu Ile Met Asn Lys Lys Pro Lys Lys Thr Lys Lys Ala Val Gln  
 1 5 10 15  
 Ser Lys Ala Ala Pro Val Lys Arg Val Pro Glu Glu Ser Gln Glu Ala  
 20 25 30  
 Ala Ile Gln Gln Leu Glu Leu Ala Val Ser Asp Leu Tyr Lys Glu Leu  
 35 40 45  
 Pro Leu Ala Gln Thr Phe Ala Ser Leu Thr Asp Lys Asn Gln Ile Asn  
 50 55 60  
 Ser Ile Ile Ala Ala Leu Ser Gly Thr Leu Glu Ser Leu His Leu Glu  
 65 70 75 80  
 Glu Leu Thr Gln Gly Leu Phe Pro Ser Ala Gln Glu Asp Ala Asn Phe  
 85 90 95  
 Ala Lys Glu Leu Ser Ser Val Val His Gly Leu Lys Asn Leu Thr Thr  
 100 105 110  
 Val Val Asn Lys Gln Met Val Lys Gly Ala Glu  
 115 120

<210> 813  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 813  
 Ile Gln Asn Asn Phe Ile Leu Gly Ile Arg Ser Met Ser Lys Pro Ser  
 1 5 10 15  
 Pro Arg Asn Ala Asn Gln Pro Gln Lys Pro Ser Ala Ser Phe Asn Lys  
 20 25 30  
 Lys Thr Arg Ser Arg Leu Ala Glu Leu Ala Ala Gln Lys Lys Ala Lys  
 35 40 45  
 Ala Asp Asp Leu Glu Gln Val His Pro Val Pro Thr Glu Glu Glu Ile  
 50 55 60  
 Lys Lys Ala Leu Gly Asn Ile Phe Glu Gly Leu Ser Asn Gly Leu Asp  
 65 70 75 80  
 Leu Gln Gln Ile Leu Gly Leu Ser Asp Tyr Leu Leu Glu Glu Ile Tyr  
 85 90 95  
 Thr Val Ala Tyr Thr Phe Tyr Ser Gln Gly Lys Tyr Asn Glu Ala Val  
 100 105 110  
 Gly Leu Phe Gln Leu Leu Ala Ala Ala Gln Pro Gln Asn Tyr Lys Tyr  
 115 120 125  
 Met Leu Gly Leu Ser Ser Cys Tyr His Gln Leu His Leu Tyr Asn Glu  
 130 135 140  
 Ala Ala Phe Gly Phe Phe Leu Ala Phe Asp Ala Gln Pro Asp Asn Pro  
 145 150 155 160  
 Ile Pro Pro Tyr Tyr Ile Ala Asp Ser Leu Leu Lys Leu Gln Gln Pro  
 165 170 175  
 Glu Glu Ser Asn Asn Phe Leu Asp Val Thr Met Asp Ile Cys Gly Asn  
 180 185 190  
 Asn Pro Glu Phe Lys Ile Leu Lys Glu Arg Cys Gln Ile Met Lys Gln  
 195 200 205  
 Ser Ile Glu Lys Gln Met Ala Gly Glu Thr Lys Lys Ala Pro Thr Lys  
 210 215 220  
 Lys Pro Ala Gly Lys Ser Lys Thr Thr Thr Asn Lys Lys Ser Gly Lys  
 225 230 235 240  
 Lys Arg

<210> 814  
 <211> 594  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 814  
 Gly Ile Leu Ile Cys Trp Leu Gly Asn Leu Thr Lys Ala Pro Met Ser  
 1 5 10 15  
 Thr Arg Arg Pro Ile Gln Leu Leu Asp Pro Leu Thr Ile Asn Gln Ile  
 20 25 30  
 Ala Ala Gly Glu Val Ile Glu Asn Ser Val Ser Val Val Lys Glu Leu  
 35 40 45  
 Ile Glu Asn Ser Leu Asp Ala Gly Ala Asp Glu Ile Glu Ile Glu Thr  
 50 55 60  
 Leu Gly Gly Gly Gln Gly Ala Ile Ile Ile Arg Asp Asn Gly Cys Gly  
 65 70 75 80  
 Phe Arg Ala Glu Asp Ile Pro Ile Ala Leu Gln Arg His Ala Thr Ser  
 85 90 95  
 Lys Ile Arg Glu Phe Ser Asp Ile Phe Ser Leu Asn Ser Phe Gly Phe  
 100 105 110  
 Arg Gly Glu Ala Leu Pro Ser Ile Ala Ser Ile Ser Lys Met Glu Ile  
 115 120 125  
 Gln Ser Ser Ile Glu Gly Asp Glu Gly Val Arg Thr Val Ile His Gly  
 130 135 140  
 Gly Asp Ile Val Ser Cys Glu Pro Cys Ala Arg Gln Leu Gly Thr Thr  
 145 150 155 160  
 Val Ile Val Asn Ser Leu Phe Tyr Asn Val Pro Val Arg Arg Gly Phe  
 165 170 175  
 Gln Lys Ser Met Gln Ser Asp Arg Leu Gly Ile Arg Lys Leu Ile Glu  
 180 185 190  
 Asn Arg Ile Leu Ser Thr Ala Asn Ile Gly Trp Ser Trp Ile Ser Glu  
 195 200 205  
 Gly His His Glu Ile Gln Ile Ala Lys Gln Gln Gly Phe Gln Glu Arg  
 210 215 220  
 Val Ala Tyr Val Met Gly Asp His Phe Met Gln Asp Ala Leu Thr Ile  
 225 230 235 240  
 Asp Lys Glu Ala Asn Gly Val Arg Ile Val Gly Val Leu Gly Ser Pro  
 245 250 255  
 Ser Phe His Arg Pro Thr Arg Gln Gly Gln Lys Ile Phe Ile Asn Asp  
 260 265 270  
 Arg Pro Ile Glu Ser Leu Phe Ile Ser Lys Lys Val Gly Asp Ala Tyr  
 275 280 285  
 Ala Leu Leu Leu Pro Leu His Arg Tyr Pro Val Phe Val Leu Lys Leu  
 290 295 300  
 Tyr Leu Pro Ser Ser Trp Cys Asp Phe Asn Val His Pro Gln Lys Ile  
 305 310 315 320  
 Glu Ala Arg Ile Leu Lys Glu Glu Leu Val Gly Asp Cys Ile Lys Glu  
 325 330 335  
 Ala Ile Val Glu Thr Leu Ala Cys Pro Pro Gly Ile Leu Cys Arg Thr  
 340 345 350  
 His Gln Glu Ile Glu Glu Ser Asp Ser Val Pro Leu Pro Met Phe Arg  
 355 360 365  
 Met Leu Glu Thr Ser Asp Val Gln Glu Glu Glu Ser Val Glu Phe Asp  
 370 375 380  
 Gln Asn Leu Phe Ala Tyr Ser Ser Glu Asp Val Ser Leu Glu Lys Gln  
 385 390 395 400  
 Glu Tyr Thr Ser Arg Gly Pro Lys Ser Gln Met Asp Trp Ile Tyr Ser  
 405 410 415  
 Ser Asp Val Arg Phe Leu Thr Ser Leu Gly Arg Val Val Leu Ala Glu  
 420 425 430

Asp Leu Glu Gly Val His Ile Ile Phe Thr Ala Ala Ala Arg Lys His  
 435 440 445  
 Leu Phe Phe Leu Ser Leu Met Gln Glu Asn Ser Arg Met Tyr Gln Ser  
 450 455 460  
 Gln Ala Leu Leu Ile Pro Leu Arg Leu Gln Val Thr Pro Glu Glu Ala  
 465 470 475 480  
 Phe Phe Phe Ser His His Gly Arg Thr Leu Cys Asp Leu Gly Ile Glu  
 485 490 495  
 Ile Ser Gln Val Gly Pro Cys Val Phe Ser Ile Glu Ser Thr Pro Thr  
 500 505 510  
 Val Ile Gly Glu Glu Leu Lys Glu Trp Leu Leu Leu Leu Ala Ala  
 515 520 525  
 Arg Gly Ser Thr Asp Ile Asn Ser Glu Ala Leu Thr Ala Leu Met Lys  
 530 535 540  
 Glu Thr Leu Thr Gln Ala Thr Phe Ser Lys His Gln His Val Phe Asp  
 545 550 555 560  
 Val Ser Trp Leu Lys Leu Leu Trp Ser Val Gly Lys Pro Glu Lys Gly  
 565 570 575  
 Phe Asp Gly Ala Arg Ile Arg Arg Leu Ile Leu Asp Ser Asp Phe Met  
 580 585 590  
 Glu Gly

<210> 815  
 <211> 364  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 815  
 Thr Leu Ile Leu Trp Lys Asp Asn His Met Ser His Asp Arg Ile Leu  
 1 5 10 15  
 Arg Ala Gln Arg Ala Leu Ser Glu His Asn Leu Asp Ala Ile Leu Val  
 20 25 30  
 Glu Lys Ser Glu Asp Leu Ala Tyr Phe Leu His Asp Glu Ala Ile Ala  
 35 40 45  
 Gly Ile Leu Leu Ile Gly Gln Glu Val Met Phe Phe Val Tyr Arg  
 50 55 60  
 Met Asp Lys Asp Leu Tyr Ser His Ile Gln Arg Val Pro Leu Thr Phe  
 65 70 75 80  
 Leu Thr Gln Asp Val Val Ala Asp Leu Ser Leu Tyr Val Gln Lys Gln  
 85 90 95  
 Arg Tyr Gln Lys Ile Gly Phe Asp Ser Ala Ser Thr Val Tyr His Lys  
 100 105 110  
 Phe Ala Gln Arg Gln Val Leu Pro Cys Leu Trp Glu Pro Leu Glu Cys  
 115 120 125  
 Phe Thr Glu Lys Ile Arg Ser Ile Lys Ser Glu Glu Glu Ile Arg Arg  
 130 135 140  
 Met Gln Glu Ala Ala Ala Leu Gly Ser Ala Gly Tyr Asp Tyr Val Leu  
 145 150 155 160  
 Thr Leu Leu Arg Glu Gly Ile Thr Glu Lys Glu Val Val Arg Gln Leu  
 165 170 175  
 Arg Ala Phe Trp Ala Glu Ala Gly Ala Glu Gly Pro Ser Phe Pro Pro  
 180 185 190  
 Ile Ile Ala Phe Gly Glu His Ser Ala Phe Pro His Ser Ile Pro Thr  
 195 200 205  
 Asp Arg Pro Leu Lys Lys Gly Asp Ile Val Leu Ile Asp Ile Gly Val  
 210 215 220  
 Leu Leu Asn Gly Tyr Cys Ser Asp Met Thr Arg Met Thr Ala Leu Gly  
 225 230 235 240  
 Thr Pro His Pro Lys Leu Leu Glu Ser Tyr Pro Val Val Val Glu Ala  
 245 250 255

Gln Lys Arg Ala Met Ala Leu Cys Lys Glu Gly Val Leu Trp Gly Asp  
 260 265 270  
 Ile Asp Ala Glu Ala Val Arg Val Leu Arg Glu His His Leu Asp Thr  
 275 280 285  
 Tyr Phe Ile His Gly Ile Gly His Gly Val Gly Arg His Ile His Glu  
 290 295 300  
 Tyr Pro Cys Ser Pro Arg Gly Ser Gln Val Lys Leu Glu Ser Gly Met  
 305 310 315 320  
 Thr Ile Thr Val Glu Pro Gly Val Tyr Phe Pro Gly Ile Gly Gly Ile  
 325 330 335  
 Arg Ile Glu Asp Thr Leu Cys Ile Asp Lys Asn Lys Asn Phe Ser Leu  
 340 345 350  
 Thr Ala Arg Pro Val Ile Ser Glu Leu Val Cys Leu  
 355 360

<210> 816  
 <211> 454  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 816  
 Phe Phe Leu Phe Phe Lys Leu Ser Tyr Asn Phe Ile Phe Asn Leu Pro  
 1 5 10 15  
 Leu Thr Met Tyr Gln Leu Leu Ser Ile Gly Tyr Ser Phe Val Ser Phe  
 20 25 30  
 Ile Ala Leu Leu Trp Met Leu Cys Tyr Ser Pro Asn Tyr Val Thr Asp  
 35 40 45  
 Leu Tyr Arg Ile Ser Leu Ser Ala Glu Glu Ser Leu Gly Gly Ile Arg  
 50 55 60  
 Ala Phe Pro Gln Ala Glu Ser Leu Leu Gly Gly Ala Cys Ala Leu Asn  
 65 70 75 80  
 Phe Pro Asp Leu Glu Glu Arg Leu Pro Asp Leu Arg Lys Glu Leu Leu  
 85 90 95  
 Phe Leu Gly Ser Asn Asp Arg Pro Asp Ala Cys Gly Gly Lys Phe Ser  
 100 105 110  
 Leu Gln Leu Ala Ser Ser Lys Glu Cys Tyr Ile Ala Ala Leu Lys Glu  
 115 120 125  
 Arg Val Tyr Leu Asn Val Thr Asn Ser Ser Arg Gly Pro Val Tyr Ser  
 130 135 140  
 Phe Ser Pro Lys Gly Val Pro Thr Glu Leu Trp Ile Glu Cys Phe Ser  
 145 150 155 160  
 Val Ser Val Asp Gly Arg Val Glu Val Lys Val Arg Leu Gln Gly Leu  
 165 170 175  
 His Lys Glu Leu Ile Ser Lys Pro Arg Asp Cys Glu Thr Leu Phe Leu  
 180 185 190  
 Asn Pro Pro Ala Asn Lys Leu Asp Cys Trp Glu Ile Ala Gly Phe Arg  
 195 200 205  
 Val Asp Ala Ser Phe Pro Val Lys Gln Lys Ile Arg Arg Ile Gly Val  
 210 215 220  
 Asp Lys Phe Leu Leu Met His Gly Gly Ala Glu Tyr Ala Asp Lys Ala  
 225 230 235 240  
 Thr Lys Glu Arg Val Asp Phe Val Ser Ser Asp Glu Glu Asn Tyr Ser  
 245 250 255  
 Arg Tyr Leu Ala Val Gly Asp Val Leu Leu Trp Asp Gly Asn Cys Trp  
 260 265 270  
 Gln Thr Cys Gly Glu Phe Gln Gly Ala Ser Ser Arg Ala Pro Leu Phe  
 275 280 285  
 Glu Val Lys Arg Ile Asp Asp Lys Val Met Ile Ala Asp Leu Trp Asn  
 290 295 300  
 Val Gly Gly Thr Gln Arg Gln Thr Ile Ser Leu Val Lys Gly Val Pro  
 305 310 315 320

Ser Pro Ile Glu Ile Asn Glu Val Ile Arg Glu Ile Glu Phe Thr Gly  
 325 330 335  
 Met Arg Ser Trp Ser Lys Pro Ile Val Leu Val Gly Gly Gln Arg Leu  
 340 345 350  
 Ile Leu Ser Pro Asp Asp Trp Val Leu Arg Thr Ala Lys Gly Trp Glu  
 355 360 365  
 Lys Leu Ser Arg Ala Asp Gln Ile Gln Asp Tyr Val Thr Gly Lys Val  
 370 375 380  
 Thr Gly Pro Leu Leu Val Phe Glu Lys Leu Glu Lys Asp Leu Arg Gly  
 385 390 395 400  
 Phe Val Leu Arg Gly His Met Phe Asn Ala Gln Arg Thr Leu Val Glu  
 405 410 415  
 Thr Ile Ser Leu Pro Leu Lys Gln Gly Phe Glu Pro Ala Val Ala Ser  
 420 425 430  
 Gln Glu Val Ser Ser Asn Thr Arg Ser Ala Ala Ala His Pro Gly Ala  
 435 440 445  
 Thr Asn Arg Gly Gly Ser  
 450

<210> 817  
 <211> 754  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 817  
 Met Val Phe Phe Arg Asn Ser Leu Leu His Leu Val Ala Leu Ser Gly  
 1 5 10 15  
 Met Leu Cys Cys Ser Ser Gly Val Ala Leu Thr Ile Ala Glu Lys Met  
 20 25 30  
 Ala Ser Leu Glu His Ser Gly Arg Gly Ala Asp Asp Tyr Glu Gly Met  
 35 40 45  
 Ala Ser Phe Asn Ala Asn Met Arg Glu Tyr Ser Leu Gln Leu Ser Lys  
 50 55 60  
 Leu Tyr Glu Glu Ala Arg Lys Leu Arg Ala Ser Gly Thr Glu Asp Glu  
 65 70 75 80  
 Ala Leu Trp Lys Asp Leu Ile Arg Arg Ile Gly Glu Val Arg Gly Tyr  
 85 90 95  
 Leu Arg Glu Ile Glu Glu Leu Trp Ala Ala Glu Ile Arg Glu Lys Gly  
 100 105 110  
 Gly Asn Leu Glu Asp Tyr Ala Leu Trp Asn His Pro Glu Thr Thr Ile  
 115 120 125  
 Tyr Asn Leu Val Thr Asp Tyr Gly Thr Glu Asp Ser Ile Tyr Leu Ile  
 130 135 140  
 Pro Gln Glu Ile Gly Ala Ile Lys Ile Ala Thr Leu Ser Lys Phe Val  
 145 150 155 160  
 Val Pro Lys Glu Ser Phe Glu Asp Cys Leu Thr Gln Ile Leu Ser Arg  
 165 170 175  
 Leu Gly Ile Gly Val Arg Gln Val Asn Ser Trp Ile Lys Glu Leu Tyr  
 180 185 190  
 Met Met Arg Lys Glu Gly Cys Ser Val Ala Gly Val Phe Ser Ser Arg  
 195 200 205  
 Lys Asp Leu Glu Ala Leu Pro Glu Thr Ala Tyr Ile Gly Phe Val Leu  
 210 215 220  
 Asn Ser Asn Val Asp Ala His Thr Asn Gln His Val Leu Lys Lys Phe  
 225 230 235 240  
 Ile Asn Pro Glu Thr Thr His Val Asp Val Ile Ala Gly Arg Val Trp  
 245 250 255  
 Ile Phe Gly Ser Ala Gly Glu Val Gly Glu Leu Leu Lys Ile Tyr Asn  
 260 265 270  
 Phe Val Gln Ser Glu Ser Ile Arg Gln Glu Tyr Arg Val Ile Pro Leu  
 275 280 285

Thr Lys Ile Asp Pro Gly Glu Met Ile Ser Ile Leu Asn Ala Ala Phe  
 290 295 300  
 Arg Glu Asp Leu Thr Lys Asp Val Ser Glu Glu Ser Leu Gly Leu Arg  
 305 310 315 320  
 Val Val Pro Leu Gln Tyr Gln Gly Arg Ser Leu Phe Leu Ser Gly Thr  
 325 330 335  
 Ala Ala Leu Val Gln Gln Ala Leu Thr Leu Ile Arg Glu Leu Glu Glu  
 340 345 350  
 Gly Ile Glu Asn Pro Thr Asp Lys Thr Val Phe Trp Tyr Asn Val Lys  
 355 360 365  
 His Ser Asp Pro Gln Glu Leu Ala Ala Leu Leu Ser Gln Val His Asp  
 370 375 380  
 Val Phe Ser Gly Glu Asn Lys Ala Ser Val Gly Ala Ala Asp Gly Cys  
 385 390 395 400  
 Gly Ser Gln Leu Asn Ala Ser Ile Gln Ile Asp Thr Thr Val Ser Ser  
 405 410 415  
 Ser Ala Lys Asp Gly Ser Val Lys Tyr Gly Asn Phe Ile Ala Asp Ser  
 420 425 430  
 Lys Thr Gly Thr Leu Ile Met Val Val Glu Lys Glu Val Leu Pro Arg  
 435 440 445  
 Ile Gln Met Leu Leu Lys Lys Leu Asp Val Pro Lys Lys Met Val Arg  
 450 455 460  
 Ile Glu Val Leu Leu Phe Glu Arg Lys Leu Ala His Glu Gln Lys Ser  
 465 470 475 480  
 Gly Leu Asn Leu Leu Arg Leu Gly Glu Glu Val Cys Lys Lys Gly Cys  
 485 490 495  
 Ser Pro Ser Val Ser Trp Ala Gly Gly Thr Gly Ile Leu Glu Phe Leu  
 500 505 510  
 Phe Lys Gly Ser Thr Gly Ser Ser Ile Val Pro Gly Tyr Asp Leu Ala  
 515 520 525  
 Tyr Gln Phe Leu Met Ala Gln Glu Asp Val Arg Ile Asn Ala Ser Pro  
 530 535 540  
 Ser Val Val Thr Met Asn Gln Thr Pro Ala Arg Ile Ala Val Val Asp  
 545 550 555 560  
 Glu Met Ser Ile Ala Val Ser Ser Asp Lys Asp Lys Ala Gln Tyr Asn  
 565 570 575  
 Arg Ala Gln Tyr Gly Ile Met Ile Lys Met Leu Pro Val Ile Asn Val  
 580 585 590  
 Gly Glu Glu Asp Gly Lys Ser Tyr Ile Thr Leu Glu Thr Asp Ile Thr  
 595 600 605  
 Phe Asp Thr Thr Gly Lys Asn His Asp Asp Arg Pro Asp Val Thr Arg  
 610 615 620  
 Arg Asn Ile Thr Asn Lys Val Arg Ile Ala Asp Gly Glu Thr Val Ile  
 625 630 635 640  
 Ile Gly Gly Leu Arg Cys Lys Gln Met Ser Asp Ser His Asp Gly Ile  
 645 650 655  
 Pro Phe Leu Gly Asp Ile Pro Gly Ile Gly Lys Leu Phe Gly Met Ser  
 660 665 670  
 Ser Thr Ser Asp Ser Leu Thr Glu Met Phe Val Phe Ile Thr Pro Lys  
 675 680 685  
 Ile Leu Glu Asn Pro Val Glu Gln Gln Glu Arg Lys Glu Glu Ala Leu  
 690 695 700  
 Leu Ser Ser Arg Pro Gly Glu Arg Glu Glu Tyr Tyr Gln Ala Leu Ala  
 705 710 715 720  
 Ala Ser Glu Ala Ala Arg Ala Ala His Lys Lys Leu Glu Met Phe  
 725 730 735  
 Pro Ala Ser Gly Val Ser Leu Ser Gln Val Glu Arg Gln Glu Tyr Asp  
 740 745 750  
 Gly Cys

<210> 818  
 <211> 501  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 818  
 Arg Gly Lys Asn Thr Met Ala Ala Ser Ile Leu Ser Gln Glu Leu Leu  
 1 5 10 15  
 Asp Ile Leu Pro Tyr Thr Phe Leu Lys Lys His Cys Leu Leu Pro Ile  
 20 25 30  
 Glu Glu Ser Ser Glu Ala Ile Thr Ile Ala His Ala Thr Ala Thr Ser  
 35 40 45  
 Val Ile Ala Gln Asp Glu Val Lys Leu Leu Ile Lys Lys Pro Val Arg  
 50 55 60  
 Phe Val Leu Lys Glu Glu Ser Glu Ile Leu Gln Arg Leu Gln Gln Leu  
 65 70 75 80  
 Tyr Ser Asn Arg Glu Gly Asn Val Ser Asp Met Leu Leu Thr Met Lys  
 85 90 95  
 Glu Glu Asp Gly Thr Thr Ile Ser Glu Glu Glu Asp Leu Leu Glu Thr  
 100 105 110  
 Thr Asp Thr Ile Pro Val Val Arg Leu Leu Asn Trp Ile Leu Lys Glu  
 115 120 125  
 Ala Ile Glu Glu Arg Ala Ser Asp Ile His Phe Glu Pro Cys Glu Asp  
 130 135 140  
 Ser Met Arg Ile Arg Tyr Arg Ile Asp Gly Val Leu His Asp Arg His  
 145 150 155 160  
 Ser Pro Pro Ser His Leu Arg Ser Ala Leu Thr Thr Arg Leu Lys Val  
 165 170 175  
 Leu Ala Lys Met Asp Ile Ala Glu His Arg Leu Pro Gln Asp Gly Arg  
 180 185 190  
 Ile Lys Ile His Ile Gly Gly Gln Glu Val Asp Met Arg Val Ser Thr  
 195 200 205  
 Val Pro Val Ile Tyr Gly Glu Arg Val Val Leu Arg Ile Leu Asp Lys  
 210 215 220  
 Arg Asn Val Ile Leu Asp Ile Ala Gly Leu His Met Pro Lys Gly Thr  
 225 230 235 240  
 Glu Ile Leu Phe Lys Asp Thr Ile Thr Ala Pro Glu Gly Ile Leu Leu  
 245 250 255  
 Val Thr Gly Pro Thr Gly Ser Gly Lys Thr Thr Thr Leu Tyr Ser Val  
 260 265 270  
 Leu Gln Glu Leu Lys Gly Pro Leu Thr Asn Ile Met Thr Ile Glu Asp  
 275 280 285  
 Pro Pro Glu Tyr Lys Leu Pro Gly Ile Ala Gln Ile Ala Val Lys Pro  
 290 295 300  
 Lys Ile Gly Leu Thr Phe Ala Arg Gly Leu Arg His Leu Leu Arg Gln  
 305 310 315 320  
 Asp Pro Asp Ile Leu Met Val Gly Glu Ile Arg Asp Gln Glu Thr Ala  
 325 330 335  
 Glu Ile Ala Ile Gln Ala Ala Leu Thr Gly His Leu Val Val Ser Thr  
 340 345 350  
 Leu His Thr Asn Asp Ala Ile Ser Ala Ile Pro Arg Leu Leu Asp Met  
 355 360 365  
 Gly Ile Glu Ser Tyr Leu Leu Ser Ala Thr Leu Val Gly Val Val Ala  
 370 375 380  
 Gln Arg Leu Val Arg Thr Ile Cys Pro Tyr Cys Lys Val Ala Tyr Thr  
 385 390 395 400  
 Pro Glu Asn Gln Glu Lys Ser Phe Leu Ala Ser Leu Gly Lys Asp Thr  
 405 410 415  
 Glu Met Pro Leu Tyr Arg Gly Gln Gly Cys Val His Cys Phe Arg Ser  
 420 425 430



Gly Tyr Lys Gly Arg Gln Gly Ile Tyr Glu Phe Leu Arg Pro Asn Thr  
                   435                  440                  445  
 Leu Phe Arg Ser Glu Val Ala Ser Asn Arg Pro Tyr His Ile Leu Arg  
                   450                  455                  460  
 Glu Thr Ala Glu Gln Asn Gly Phe Leu Pro Ile Leu Glu His Gly Ile  
 465                  470                  475                  480  
 Ala Leu Ala Val Ser Gly Glu Thr Thr Leu Ala Glu Val Leu Arg Val  
                   485                  490                  495  
 Thr Lys Arg Cys Asp  
                   500

<210> 819  
 <211> 394  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 819  
 Gly Gly Arg Met Pro Arg Tyr Arg Tyr Thr Tyr Leu Asp Pro Lys Glu  
 1                  5                  10                  15  
 Arg Arg Lys Arg Gly Tyr Leu Glu Ala Leu His Ile Gln Glu Ala Arg  
                   20                  25                  30  
 Glu Lys Leu Ala Gln Glu Asn Ile Gln Val Leu Asp Ile Arg Glu Val  
                   35                  40                  45  
 Ala Leu Arg Arg Met Ser Ile Lys Ser Thr Glu Leu Ile Val Phe Thr  
                   50                  55                  60  
 Lys Gln Leu Leu Leu Leu Leu Arg Ser Gly Leu Pro Leu Tyr Glu Ser  
 65                  70                  75                  80  
 Leu Val Ser Leu Arg Asp Gln Tyr His Glu Gln Lys Met Gly Leu Leu  
                   85                  90                  95  
 Leu Thr Ser Phe Met Glu Thr Leu Arg Ser Gly Gly Ser Leu Ser Gln  
                   100                  105                  110  
 Ala Met Ala Ala His Pro Asn Ile Phe Asp His Phe Tyr Cys Ser Gly  
                   115                  120                  125  
 Val Ala Ala Gly Glu Ser Val Gly Asn Leu Glu Gly Cys Leu Gln Asn  
                   130                  135                  140  
 Ile Ile Val Val Leu Glu Arg Ala Gln Ile Thr Lys Lys Met Val  
 145                  150                  155                  160  
 Gly Ala Leu Ser Tyr Pro Cys Val Leu Leu Val Phe Ser Phe Ala Val  
                   165                  170                  175  
 Met Leu Phe Phe Leu Leu Gly Val Ile Pro Ser Leu Lys Glu Thr Phe  
                   180                  185                  190  
 Glu Asn Met Glu Val Lys Gly Leu Thr Lys Ile Val Phe Gly Val Ser  
                   195                  200                  205  
 Asp Cys Leu Ser Ala Tyr Arg Tyr Leu Phe Leu Gly Phe Ala Ser Ala  
                   210                  215                  220  
 Leu Ile Thr Val Gly Ile Leu Met Arg His Arg Ile Pro Trp Lys Lys  
 225                  230                  235                  240  
 Ile Leu Glu Lys Leu Leu Phe Ala Leu Pro Gly Thr Lys Lys Phe Val  
                   245                  250                  255  
 Val Lys Val Ala Val Asn Arg Phe Cys Ser Val Ala Ser Ala Ile Leu  
                   260                  265                  270  
 Lys Gly Gly Gly Thr Leu Ile Glu Gly Leu Asp Leu Gly Cys Asp Ala  
                   275                  280                  285  
 Ile Pro Tyr Asp Arg Leu Lys Thr Asp Met Arg Asp Ile Val Gln Ala  
                   290                  295                  300  
 Val Ile Gly Gly Gly Ser Leu Ser Gln Glu Leu Ala Gln Arg Ser Trp  
 305                  310                  315                  320  
 Val Pro Lys Leu Ala Ile Gly Met Ile Ala Leu Gly Glu Glu Ser Gly  
                   325                  330                  335  
 Asp Leu Ala Asp Val Leu Gly Tyr Val Ala His Ile Tyr Asn Glu Asp  
                   340                  345                  350

Thr Gln Lys Thr Leu Ala Ser Ile Thr Ser Trp Cys Gln Pro Val Ile  
 355 360 365  
 Leu Ile Phe Leu Gly Gly Leu Ile Gly Val Ile Met Leu Ala Ile Leu  
 370 375 380  
 Ile Pro Leu Thr Ser Asn Ile Gln Thr Leu  
 385 390

<210> 820  
 <211> 175  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 820  
 Gly Tyr Thr Lys Asn Val Gly Phe Asp Asn Val Val Val Ser Thr Arg  
 1 5 10 15  
 Asp Ser Asp Phe Ser Trp Trp Pro Asp Arg Cys Asp His Val Gly Asn  
 20 25 30  
 Ile Asp Pro Thr His Lys Gln Tyr Pro Asn Ile Ile Lys Cys Val Leu  
 35 40 45  
 Arg Gly Val Gly Met Lys Arg Gln Lys Arg Lys Gln Ser Ile Thr Leu  
 50 55 60  
 Ile Glu Met Met Val Val Ile Thr Leu Ile Gly Ile Ile Gly Gly Ala  
 65 70 75 80  
 Leu Ala Phe Asn Met Arg Gly Ser Ile His Lys Gly Lys Val Phe Gln  
 85 90 95  
 Ser Glu Gln Asn Cys Ala Lys Val Tyr Asp Ile Leu Met Met Glu Tyr  
 100 105 110  
 Ala Thr Gly Gly Ser Ser Leu Lys Glu Ile Ile Ala His Lys Glu Thr  
 115 120 125  
 Val Val Glu Glu Ala Ser Trp Cys Lys Glu Gly Arg Lys Leu Leu Lys  
 130 135 140  
 Asp Ala Trp Gly Glu Asp Leu Ile Val Gln Leu Asn Asp Lys Gly Asp  
 145 150 155 160  
 Asp Leu Val Ile Phe Ser Lys Arg Val Gln Ser Ser Asn Lys Lys  
 165 170 175

<210> 821  
 <211> 54  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 821  
 Ala Ser Leu Tyr Gly Tyr Cys Leu Phe Leu Ile Trp Glu Lys Phe His  
 1 5 10 15  
 Asn Asn Ile Gly Lys Ala Asn Phe His Leu Lys Ile Ile Thr Thr Asp  
 20 25 30  
 Phe Leu Thr Asp Ile Tyr Ile Val Thr Ile Arg Asp Pro Ile Ala Tyr  
 35 40 45  
 Pro Leu Thr Gly Ile Cys  
 50

<210> 822  
 <211> 206  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 822  
 Asp Glu Ser Leu Pro Cys Arg Cys Cys Gly Thr Phe Pro Arg Ser  
 1 5 10 15  
 Glu Thr Ser Ser Ile Arg Thr Glu Met Pro Met Cys Asn Ser Ile Ala  
 20 25 30

Met Lys Lys Gln Lys Arg Gly Phe Val Leu Met Glu Leu Leu Met Ser  
 35 40 45  
 Phe Thr Leu Ile Ala Leu Leu Gly Thr Leu Gly Phe Trp Tyr Arg  
 50 55 60  
 Lys Ile Tyr Thr Val Gln Lys Gln Lys Glu Arg Ile Tyr Asn Phe Tyr  
 65 70 75 80  
 Ile Glu Glu Ser Arg Ala Tyr Lys Gln Leu Arg Thr Leu Phe Ser Met  
 85 90 95  
 Ser Leu Ser Ser Ser Tyr Glu Glu Pro Gly Ser Leu Phe Ser Leu Ile  
 100 105 110  
 Phe Asp Arg Gly Val Tyr Arg Asp Pro Lys Leu Ala Gly Ala Val Arg  
 115 120 125  
 Ala Ser Leu His His Asp Thr Lys Asp Gln Arg Leu Glu Leu Arg Ile  
 130 135 140  
 Cys Asn Ile Lys Asp Gln Ser Tyr Phe Glu Thr Gln Arg Leu Leu Ser  
 145 150 155 160  
 His Val Thr His Val Val Leu Ser Phe Gln Arg Asn Pro Asp Pro Glu  
 165 170 175  
 Lys Leu Pro Glu Thr Ile Ala Leu Thr Ile Thr Arg Glu Pro Lys Ala  
 180 185 190  
 Tyr Pro Pro Arg Thr Leu Thr Tyr Gln Phe Ala Val Gly Lys  
 195 200 205

<210> 823  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 823  
 His Thr Asn Leu Arg Leu Gly Asn Lys Pro Met Gln Pro Phe Ile Phe  
 1 5 10 15  
 Thr Leu Leu Cys Leu Thr Ser Leu Val Ser Leu Val Ala Phe Asp Ala  
 20 25 30  
 Ala Asn Ala Arg Lys Arg Cys Ala Cys Ala Gln Thr Ile Glu Arg Gly  
 35 40 45  
 Glu Asn Phe Phe Ser Ile Lys Arg Ser Ala Cys Ala Glu Ile Glu Tyr  
 50 55 60  
 Gln Glu Lys Ser Arg His Ala Ser Ala Ile Glu Arg Ile Ser Lys Asp  
 65 70 75 80  
 Lys Gly Lys Val Thr Pro Lys Gln Ile Ala Lys Val Ala Thr Lys Lys  
 85 90 95  
 Lys Gln Arg Tyr Arg Leu Leu Gln Val Pro Phe Ser Arg Pro Pro Asn  
 100 105 110  
 Asn Ser Arg Tyr Asn Leu Tyr Ala Leu Leu Ser Glu Pro Pro Glu Cys  
 115 120 125  
 Tyr Ser Asp Thr Ala Ser Trp Tyr Ala Ile Phe Ile Arg Leu Leu Arg  
 130 135 140  
 Arg Ala Tyr Val Asp Thr Gly Asn Val Pro Pro Gly Ser Glu Tyr Ala  
 145 150 155 160  
 Ile Ala Asn Ala Leu Ile Ser Asn Lys Gln Glu Ile Leu Glu Arg Gly  
 165 170 175  
 Ala Gln Leu Gly Pro Asp Val Ile Glu Thr Leu Thr Leu Pro Glu Glu  
 180 185 190  
 Gln Ala Glu Ile Phe Tyr Lys Met Leu Lys Gly Ser Ser Asn Ser Gln  
 195 200 205  
 Ser Leu Leu Asn Phe Leu His Tyr Glu Glu Lys Ser Leu Gly His Cys  
 210 215 220  
 Lys Leu Asn Leu Ile Phe Met Asp Pro Leu Leu Leu Glu Ala Val Leu  
 225 230 235 240  
 Asp His Pro Asp Ala Tyr Arg Glu Thr Ser Leu Leu Arg Asp Gly Ile  
 245 250 255

Trp Glu Ala Val Lys Arg Gln Glu His Ala Ile Gln Glu His Gly Gln  
 260 265 270  
 Ala Ala Ala Leu Glu Leu Phe Lys Thr Arg Thr Asp Phe Arg Leu Glu  
 275 280 285  
 Leu Arg Asp Lys Met Gln Leu Leu Leu Ser Arg Tyr Asp Leu Leu Pro  
 290 295 300  
 Leu Leu Asn Lys Lys Met Phe Asp Tyr Thr Leu Gly Ser Ala Gly Asp  
 305 310 315 320  
 Tyr Leu Phe Leu Val Asp Pro Asp Thr Lys Ala Ile Ser Arg Cys Arg  
 325 330 335  
 Cys Pro Ser Lys Ser Ile Lys Leu  
 340

<210> 824

<211> 177

<212> PRT

<213> Chlamydia pneumoniae

<400> 824  
 Phe Phe Leu Ile Ile Val Leu Ile Ser Thr Ile Lys Asn Ile Ser Ile  
 1 5 10 15  
 Gly Arg Thr Met Ala Asp Glu Thr Pro Lys Glu Asn Ser Ser Lys Glu  
 20 25 30  
 Ser Ser Ser Gln Phe Asp Ser Leu Lys Arg Lys Val Lys Asp Leu His  
 35 40 45  
 Ser Asn Pro Lys Val Gly Lys Trp Lys Lys Phe Leu Ser His Arg Ala  
 50 55 60  
 Cys Glu Ala Ile Gly Gly Cys Leu Val Leu Val Gly Ile Ile Ala Asp  
 65 70 75 80  
 Phe Ile Ser Trp Ala Gly Gly Leu Phe Ile Ala Cys Gly Val Val Leu  
 85 90 95  
 Gly Phe His Val Glu Ile Arg Lys Met Leu Ser Asn Leu Gln Ser Tyr  
 100 105 110  
 Ser Ile Ala Asn Gly Pro Ile Lys Asn Ala Ile Leu Cys Gly Leu Ile  
 115 120 125  
 Leu Phe Phe Val Leu Asn Ile Pro Ser Phe Ala Val Ser Phe Ile Val  
 130 135 140  
 Leu Cys Val Ile Leu Ser Phe Ile Thr Thr Ala Pro Ser Cys Ser Thr  
 145 150 155 160  
 Cys Ser Lys Asp His Cys Asp Lys His Gln Asp Thr Ser Asn Lys Pro  
 165 170 175  
 Ser

<210> 825

<211> 308

<212> PRT

<213> Chlamydia pneumoniae

<400> 825  
 Phe Tyr Ala Leu Gln Val Arg Phe Ser Lys Thr Ser Ile Asn Gly Asn  
 1 5 10 15  
 Lys Glu Leu Met Gly Ile Ser Leu Pro Glu Leu Phe Ser Asn Leu Gly  
 20 25 30  
 Ser Ala Tyr Leu Asp Tyr Ile Phe Gln His Pro Pro Ala Tyr Val Trp  
 35 40 45  
 Ser Val Phe Leu Leu Leu Leu Ala Arg Leu Leu Pro Ile Phe Ala Val  
 50 55 60  
 Ala Pro Phe Leu Gly Ala Lys Leu Phe Pro Ser Pro Ile Lys Ile Gly  
 65 70 75 80

Ile Ser Leu Ser Trp Leu Ala Ile Ile Phe Pro Lys Val Leu Ala Asp  
 85 90 95  
 Thr Gln Ile Thr Asn Tyr Met Asp Asn Asn Leu Phe Tyr Val Leu Leu  
 100 105 110  
 Val Lys Glu Met Ile Ile Gly Ile Val Ile Gly Phe Val Leu Ala Phe  
 115 120 125  
 Pro Phe Tyr Ala Ala Gln Ser Ala Gly Ser Phe Ile Thr Asn Gln Gln  
 130 135 140  
 Gly Ile Gln Gly Leu Glu Gly Ala Thr Ser Leu Ile Ser Ile Glu Gln  
 145 150 155 160  
 Thr Ser Pro His Gly Ile Leu Tyr His Tyr Phe Val Thr Ile Ile Phe  
 165 170 175  
 Trp Leu Val Gly Gly His Arg Ile Val Ile Ser Leu Leu Leu Gln Thr  
 180 185 190  
 Leu Glu Val Ile Pro Ile His Ser Phe Phe Pro Ala Glu Met Met Ser  
 195 200 205  
 Leu Ser Ala Pro Ile Trp Ile Thr Met Ile Lys Met Cys Gln Leu Cys  
 210 215 220  
 Leu Val Met Thr Ile Gln Leu Ser Ala Pro Ala Ala Leu Ala Met Leu  
 225 230 235 240  
 Met Ser Asp Leu Phe Leu Gly Ile Ile Asn Arg Met Ala Pro Gln Val  
 245 250 255  
 Gln Val Ile Tyr Leu Leu Ser Ala Leu Lys Ala Phe Met Gly Leu Leu  
 260 265 270  
 Phe Leu Thr Leu Ala Trp Trp Phe Ile Ile Lys Gln Ile Asp Tyr Phe  
 275 280 285  
 Thr Leu Ala Trp Phe Lys Glu Val Pro Ile Met Leu Leu Gly Ser Asn  
 290 295 300  
 Pro Gln Val Leu  
 305

<210> 826  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 826  
 Ile Arg Thr Arg Ala Val Leu Ala Phe Phe Ala Thr Ser Phe Lys Ser  
 1 5 10 15  
 Val Leu Phe Glu Tyr Ser Tyr Gln Ser Leu Leu Leu Ile Leu Ile Val  
 20 25 30  
 Ser Ala Pro Pro Ile Ile Leu Ala Ser Ile Val Gly Ile Met Val Ala  
 35 40 45  
 Ile Phe Gln Ala Ala Thr Gln Ile Gln Glu Gln Thr Phe Ala Phe Ala  
 50 55 60  
 Val Lys Leu Val Val Ile Phe Gly Thr Leu Met Ile Ser Gly Gly Trp  
 65 70 75 80  
 Leu Ser Asn Met Ile Leu Arg Phe Ala Gly Gln Ile Phe Gln Asn Phe  
 85 90 95  
 Tyr Lys Trp Lys  
 100

<210> 827  
 <211> 314  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 827  
 Glu Arg Ile Lys Val Phe Thr Ile Met Arg Ser Ile Phe Arg Phe Ser  
 1 5 10 15

Leu Cys Phe Phe Thr Leu Ser Val Ser Cys Cys Phe Ala Asp Ala Ser  
 20 25 30  
 Leu Tyr Glu Asn Ser Cys Pro Ser Arg Cys Gln Pro Thr Pro Pro Pro  
 35 40 45  
 Ser Asn Ser Asn Pro Leu Asn Val Val Gln Gln Pro Val Ala Ala Ser  
 50 55 60  
 Ser Val Pro Ser Tyr Met Pro Pro Leu Asn Ala Asp Asp Val Leu Pro  
 65 70 75 80  
 Arg Asp His Leu Ser Asp Gly Ser Phe Ser Asp Thr Tyr Pro Asp Ile  
 85 90 95  
 Thr Thr Gln Ala Ile Ile Leu Ile Phe Leu Ala Leu Ser Pro Phe Leu  
 100 105 110  
 Val Met Leu Leu Thr Ser Tyr Leu Lys Ile Ile Ile Thr Leu Val Leu  
 115 120 125  
 Leu Arg Asn Ala Leu Gly Val Gln Gln Thr Pro Pro Ser Gln Val Leu  
 130 135 140  
 Asn Gly Ile Ala Leu Ile Leu Ser Ile Tyr Val Met Phe Pro Thr Gly  
 145 150 155 160  
 Val Ala Met Tyr Lys Asp Ala Arg Lys Glu Ile Glu Ala Asn Thr Ile  
 165 170 175  
 Pro Gln Ser Leu Phe Thr Ala Glu Gly Ala Glu Thr Val Phe Val Ala  
 180 185 190  
 Leu Asn Lys Ser Lys Glu Pro Leu Arg Ser Phe Leu Ile Arg Asn Thr  
 195 200 205  
 Pro Lys Ala Gln Ile Gln Ser Phe Tyr Lys Ile Ser Gln Lys Thr Phe  
 210 215 220  
 Pro Ser Glu Ile Arg Ala His Leu Thr Ala Ser Asp Phe Val Ile Ile  
 225 230 235 240  
 Ile Pro Ala Phe Ile Met Gly Gln Ile Lys Asn Ala Phe Glu Ile Gly  
 245 250 255  
 Val Leu Ile Tyr Leu Pro Phe Phe Val Ile Asp Leu Val Thr Ala Asn  
 260 265 270  
 Val Leu Val Ala Met Gln Met Met Met Leu Ser Pro Leu Ser Ile Ser  
 275 280 285  
 Leu Pro Leu Lys Leu Leu Leu Ile Val Met Val Asp Gly Trp Thr Leu  
 290 295 300  
 Leu Leu Gln Gly Leu Met Ile Ser Phe Lys  
 305 310

<210> 828  
 <211> 257  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 828  
 His Asp Asn Lys Arg Ser Gly Val Phe Ser Ser Glu Val Asn Gln Pro  
 1 5 10 15  
 Gln Arg Tyr Tyr Ala Ile Val Lys Met Lys Phe Phe Ser Leu Ile Phe  
 20 25 30  
 Lys Asp Asp Asp Val Ser Pro Asn Lys Lys Val Leu Ser Pro Glu Ala  
 35 40 45  
 Phe Ser Ala Phe Leu Asp Ala Lys Glu Leu Leu Glu Lys Thr Lys Ala  
 50 55 60  
 Asp Ser Glu Ala Tyr Val Ala Glu Thr Glu Gln Lys Cys Ala Gln Ile  
 65 70 75 80  
 Arg Gln Glu Ala Lys Asp Gln Gly Phe Lys Glu Gly Ser Glu Ser Trp  
 85 90 95  
 Ser Lys Gln Ile Ala Phe Leu Glu Glu Glu Thr Lys Asn Leu Arg Ile  
 100 105 110  
 Arg Val Arg Glu Ala Leu Val Pro Leu Ala Ile Ala Ser Val Arg Lys  
 115 120 125

Ile Ile Gly Lys Glu Leu Glu Leu His Pro Glu Thr Ile Val Ser Ile  
 130 135 140  
 Ile Ser Gln Ala Leu Lys Glu Leu Thr Gln Asn Lys His Ile Ile Ile  
 145 150 155 160  
 Ser Val Asn Pro Lys Asp Leu Pro Leu Val Glu Lys Ser Arg Pro Glu  
 165 170 175  
 Leu Lys Asn Ile Val Glu Tyr Ala Asp Ser Leu Ile Leu Thr Ala Lys  
 180 185 190  
 Pro Asp Val Thr Pro Gly Gly Cys Ile Ile Glu Thr Glu Ala Gly Ile  
 195 200 205  
 Ile Asn Ala Gln Leu Asp Val Gln Leu Asp Ala Leu Glu Lys Ala Phe  
 210 215 220  
 Ser Thr Ile Leu Lys Ala Lys Asn Pro Val Asp Glu Pro Ser Glu Thr  
 225 230 235 240  
 Ser Ser Ser Thr Asp Ser Ser Ser Leu Ser Asn Asp Gln Asp Lys Lys  
 245 250 255

Glu

<210> 829  
 <211> 280  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 829  
 Gly Cys Leu Val Thr Ala Asn Thr Phe Gly Thr Leu Asp Ile Leu Met  
 1 5 10 15  
 Lys His Ser Lys Glu Asp Asp Leu Ser Arg Phe Leu Pro Lys Asn Leu  
 20 25 30  
 Leu Val Glu Ser Pro His Pro Glu Glu Ile Pro Leu Lys Ser Leu Ser  
 35 40 45  
 Phe Thr Met Ser Trp Leu Pro Thr Ile His Pro Ser Trp Ile Thr Ile  
 50 55 60  
 Ala Met Lys Glu Phe Pro Pro Glu Ile Gln Gly Gln Leu Leu Ala Trp  
 65 70 75 80  
 Leu Pro Glu Pro Leu Val Gln Glu Ile Leu Pro Leu Leu Pro Gly Ile  
 85 90 95  
 Ser Ile Ala Pro His Arg Cys Ala Pro Phe Gly Ala Phe Tyr Leu Leu  
 100 105 110  
 Asp Met Leu Ser Lys Lys Ile Arg Pro Cys Gly Ile Thr Glu Glu Ile  
 115 120 125  
 Phe Leu Pro Ala Ser Ser Ala Asn Ala Ile Leu Tyr Tyr Thr Gly Pro  
 130 135 140  
 Val Lys Ile Ala Leu Ile Asn Cys Leu Gly Leu Tyr Ser Ile Ala Lys  
 145 150 155 160  
 Glu Leu Lys His Ile Leu Asp Lys Val Val Ile Glu Arg Val Lys Asn  
 165 170 175  
 Ala Leu Ser Pro Thr Glu Lys Leu Phe Leu Thr Tyr Cys Gln Ser His  
 180 185 190  
 Pro Met Lys His Leu Glu Thr Thr Asn Phe Leu Ser Ser Trp Thr Thr  
 195 200 205  
 Asp Ala Glu Leu Arg Gln Phe Val His Lys Gln Gly Leu Glu Phe Leu  
 210 215 220  
 Gly Lys Ala Leu Thr Lys Glu Asn Ala Ser Phe Leu Trp Tyr Phe Leu  
 225 230 235 240  
 Arg Arg Leu Asp Val Gly Arg Ala Tyr Ile Val Glu Gln Thr Leu Lys  
 245 250 255  
 Thr Trp Tyr Asp His Pro Tyr Val Asp Tyr Phe Lys Ser Arg Leu Glu  
 260 265 270  
 Gln Cys Met Lys Val Leu Val Lys  
 275 280

<210> 830  
 <211> 342  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 830  
 Ile Lys Arg Tyr Ala Trp Ile Met Val Arg Arg Ser Ile Ser Phe Cys  
 1 5 10 15  
 Leu Phe Phe Leu Met Thr Leu Leu Cys Cys Thr Ser Cys Asn Ser Arg  
 20 25 30  
 Ser Leu Ile Val His Gly Leu Pro Gly Arg Glu Ala Asn Glu Ile Val  
 35 40 45  
 Val Leu Leu Val Ser Lys Gly Val Ala Ala Gln Lys Leu Pro Gln Ala  
 50 55 60  
 Ala Ala Ala Thr Ala Gly Ala Ala Thr Glu Gln Met Trp Asp Ile Ala  
 65 70 75 80  
 Val Pro Ser Ala Gln Ile Thr Glu Ala Leu Ala Ile Leu Asn Gln Ala  
 85 90 95  
 Gly Leu Pro Arg Met Lys Gly Thr Ser Leu Leu Asp Leu Phe Ala Lys  
 100 105 110  
 Gln Gly Leu Val Pro Ser Glu Leu Gln Glu Lys Ile Arg Tyr Gln Glu  
 115 120 125  
 Gly Leu Ser Glu Gln Met Ala Ser Thr Ile Arg Lys Met Asp Gly Val  
 130 135 140  
 Val Asp Ala Ser Val Gln Ile Ser Phe Thr Thr Glu Asn Glu Asp Asn  
 145 150 155 160  
 Leu Pro Leu Thr Ala Ser Val Tyr Ile Lys His Arg Gly Val Leu Asp  
 165 170 175  
 Asn Pro Asn Ser Ile Met Val Ser Lys Ile Lys Arg Leu Ile Ala Ser  
 180 185 190  
 Ala Val Pro Gly Leu Val Pro Glu Asn Val Ser Val Val Ser Asp Arg  
 195 200 205  
 Ala Ala Tyr Ser Asp Ile Thr Ile Asn Gly Pro Trp Gly Leu Thr Glu  
 210 215 220  
 Glu Ile Asp Tyr Val Ser Val Trp Gly Ile Ile Leu Ala Lys Ser Ser  
 225 230 235 240  
 Leu Thr Lys Phe Arg Leu Ile Phe Tyr Val Leu Ile Leu Ile Leu Phe  
 245 250 255  
 Val Ile Ser Cys Gly Leu Leu Trp Val Ile Trp Lys Thr His Thr Leu  
 260 265 270  
 Ile Met Thr Met Gly Gly Thr Lys Gly Phe Phe Asn Pro Thr Pro Tyr  
 275 280 285  
 Thr Lys Asn Ala Leu Glu Ala Lys Lys Ala Glu Gly Ala Ala Ala Asp  
 290 295 300  
 Lys Glu Lys Lys Glu Asp Ala Asp Ser Gln Gly Glu Ser Lys Asn Ala  
 305 310 315 320  
 Glu Thr Ser Asp Lys Asp Ser Ser Asp Lys Asp Ala Pro Glu Gly Ser  
 325 330 335  
 Asn Glu Ile Glu Gly Ala  
 340

<210> 831  
 <211> 190  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 831  
 Lys Tyr Ile Cys Phe Val Pro Thr Leu Ala Lys Ser Phe Tyr Ile Asn  
 1 5 10 15  
 Ile Arg Asp Ser Arg Phe Tyr Ser Trp Leu Cys Phe Ile Met Lys Glu  
 20 25 30



Thr Tyr Tyr Arg Asp Phe Leu His Glu Asn Tyr Leu Lys Asn Lys Lys  
 35 40 45  
 Ser Met Phe Met Lys Ile Tyr Lys Thr Ala Gly Glu Phe Phe Leu Ala  
 50 55 60  
 Asn Ala Lys Trp Pro Leu Val Pro Ala Gly Tyr Arg Arg Val Arg Gly  
 65 70 75 80  
 Lys Asp Phe Val Leu Ser Pro Leu Val Asp Leu Val Ile Leu Phe Pro  
 85 90 95  
 Trp Val Thr Lys Asp Ser Arg Tyr Ser Pro Cys Ser Met Thr Phe Thr  
 100 105 110  
 Cys Ile Cys Arg Ser Ile Val Glu Cys Ile Pro Val Val Ser Thr Leu  
 115 120 125  
 Phe Gly Ile Gly Arg Phe Cys Ala Val Trp Cys Val Glu Gly Phe Ser  
 130 135 140  
 Gly Ser Thr Phe Asp Lys Ile Tyr His Thr Ile Val Ala Val Leu Gly  
 145 150 155 160  
 Ile Leu Gly Leu Gly Ile Leu Thr Phe Ile Leu Arg Ile Ile Phe Ser  
 165 170 175  
 Val Leu Met Leu Pro Val Trp Phe Leu Phe Lys Cys Tyr Ser  
 180 185 190

<210> 832  
 <211> 207  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 832  
 Asp Ser Cys Ser Phe Leu Leu Pro Cys Phe Glu Val Glu Ala Gln Thr  
 1 5 10 15  
 Phe Pro Gln Val Phe Ser Lys Val Val Val Tyr Lys Tyr Lys Ser Ser  
 20 25 30  
 Arg Ile Leu Leu Ile Ala Leu Leu Tyr Asn Ile Thr Leu Val Leu Gly  
 35 40 45  
 Leu Ile Phe Ile His Lys Lys Tyr Leu Gly Gln Lys Gly Arg Val Ile  
 50 55 60  
 Leu Lys Ile Tyr Gln Asn Glu Glu Glu Phe Phe Arg Ala Thr Glu Arg  
 65 70 75 80  
 Phe Pro Ser Ile Gly Ala Gly Tyr Leu Arg Val Arg Asn Lys Asn Ser  
 85 90 95  
 Val Leu Phe Pro Phe Glu Asp Leu Met Leu Val Cys Pro Ser Val Pro  
 100 105 110  
 Lys Asp Phe Pro Leu Ser Ala Phe Lys Val Thr Thr Lys Leu Ile Tyr  
 115 120 125  
 Trp Ser Val Leu Glu Ser Ile Pro Val Val Gly Ala Phe Phe Phe Ser  
 130 135 140  
 Ile Gly Arg Leu Phe Ala Met Trp Cys Ile Glu Asp Phe Pro Gly Ser  
 145 150 155 160  
 Ile Phe Ser Arg Ile Tyr His Thr Ile Val Gly Val Leu Gly Ile Leu  
 165 170 175  
 Gly Leu Gly Ile Ile Met Phe Ile Leu Arg Ile Ile Phe Thr Leu Leu  
 180 185 190  
 Thr Leu Pro Phe Trp Leu Ile Ser Cys Leu Lys Ser Ser Ala Ala  
 195 200 205

<210> 833  
 <211> 62  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 833  
 Asn Lys Arg Lys Asn Asn Val Leu Ile Arg Lys Ser Glu Ser Glu Gly  
 1 5 10 15  
 Ala Phe Phe Glu Ala Thr Gln Asn Tyr Pro Thr Ile Gln Gln Gly Tyr  
 20 25 30  
 Gln Leu Val Arg Ile Arg Glu His Asn Leu Ser Val Arg Ala His Phe  
 35 40 45  
 Asp Leu Ser Leu Ser Leu Asp Ala Ser Val His Pro Ala Ala  
 50 55 60

<210> 834  
 <211> 308  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 834  
 Val Met Lys Cys Arg Pro Thr Leu Asn Thr Asp Gln Pro Arg Val Arg  
 1 5 10 15  
 Lys Lys Leu Pro Glu Arg Phe Pro Lys Trp Leu Gln Arg Pro Leu Pro  
 20 25 30  
 Gln Gly Ser Ala Phe His Ala Thr Asp Ala Thr Ile Lys Arg Ser Gly  
 35 40 45  
 Met Pro Thr Val Cys Glu Glu Ala Leu Cys Pro Asn Arg Ala Glu Cys  
 50 55 60  
 Trp Ser Arg Lys Thr Ala Thr Tyr Leu Ala Leu Gly Asp Val Cys Thr  
 65 70 75 80  
 Arg Ser Cys Gly Phe Cys Asn Ile Gly His Ser Lys Thr Pro Pro Ala  
 85 90 95  
 Leu Asp Pro Thr Glu Pro Glu Arg Ile Ala Leu Ser Ala Lys Glu Leu  
 100 105 110  
 Gly Leu Lys His Val Val Ile Thr Met Val Ala Arg Asp Asp Leu Glu  
 115 120 125  
 Asp Gly Gly Ala Gln Gly Leu Val Asp Ile Ile Gln Lys Leu Arg Glu  
 130 135 140  
 Glu Leu Pro Gln Ala Thr Thr Glu Val Leu Ala Ser Asp Phe Gln Gly  
 145 150 155 160  
 Asn Val Ser Ala Leu His Thr Leu Leu Asp Ser Gly Ile Thr Ile Tyr  
 165 170 175  
 Asn His Asn Val Glu Thr Val Ala Arg Leu Ser Pro Leu Val Arg His  
 180 185 190  
 Lys Ala Thr Tyr Ala Arg Ser Met Phe Met Leu Glu Gln Ala Ala Asn  
 195 200 205  
 Tyr Leu Pro Asp Leu Lys Ile Lys Ser Gly Ile Met Val Gly Leu Gly  
 210 215 220  
 Glu Met Glu Gly Glu Val Lys Gln Thr Leu Gln Asp Leu Ala Ser Ile  
 225 230 235 240  
 Gly Val Arg Ile Val Thr Ile Gly Gln Tyr Leu Arg Pro Ser Arg Lys  
 245 250 255  
 His Leu Gln Val Lys Ser Tyr Val Thr Pro Glu Thr Phe Asp Tyr Tyr  
 260 265 270  
 Arg Arg Val Gly Glu Ala Met Gly Leu Phe Val Tyr Ala Gly Pro Phe  
 275 280 285  
 Val Arg Ser Ser Phe Asn Ala Asp Met Ile Leu Ala Ser Val Gln Asp  
 290 295 300  
 Lys Ala Ser Ala  
 305

<210> 835  
 <211> 475  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 835

Arg Gly Val Leu Phe Glu Ile Leu Ile Thr Val Ser Glu Asn Met Thr  
1 5 10 15  
Gln Glu Phe Asp Cys Val Val Ile Gly Ala Gly Pro Ser Gly Tyr Val  
20 25 30  
Ala Ala Ile Thr Ala Ala Gln Ser Lys Leu Arg Thr Ala Leu Ile Glu  
35 40 45  
Glu Asp Gln Ala Gly Gly Thr Cys Leu Asn Arg Gly Cys Ile Pro Ser  
50 55 60  
Lys Ala Leu Ile Ala Gly Ala Asn Val Val Ser His Ile Lys His Ala  
65 70 75 80  
Glu Gln Phe Gly Ile His Val Asp Gly Tyr Thr Ile Asp Tyr Pro Ala  
85 90 95  
Met Ala Lys Arg Lys Asn Thr Val Val Gln Gly Ile Arg Gln Gly Leu  
100 105 110  
Glu Gly Leu Ile Arg Ser Asn Lys Ile Thr Val Leu Lys Gly Thr Gly  
115 120 125

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Ser Leu Val Ser Ser Thr Glu Val Lys Val Ile Gly Gln Asp Thr Thr  
130 135 140  
Ile Ile Lys Ala Asn His Ile Ile Leu Ala Thr Gly Ser Glu Pro Arg  
145 150 155 160  
Pro Phe Pro Gly Val Pro Phe Ser Ser Arg Ile Leu Ser Ser Thr Gly  
165 170 175  
Ile Leu Glu Leu Glu Val Leu Pro Lys Lys Leu Ala Ile Ile Gly Gly  
180 185 190  
Gly Val Ile Gly Cys Glu Phe Ala Ser Leu Phe His Thr Leu Gly Val  
195 200 205  
Glu Ile Thr Val Ile Glu Ala Leu Asp His Ile Leu Ala Val Asn Asn  
210 215 220  
Lys Glu Val Ser Gln Thr Val Thr Asn Lys Phe Thr Lys Gln Gly Ile  
225 230 235 240  
Arg Ile Leu Thr Lys Ala Ser Ile Ser Ala Ile Glu Glu Ser Gln Asn  
245 250 255  
Gln Val Arg Ile Thr Val Asn Asp Gln Val Glu Glu Phe Asp Tyr Val  
260 265 270  
Leu Val Ala Ile Gly Arg Gln Phe Asn Thr Ala Ser Ile Gly Leu Asp  
275 280 285  
Asn Ala Gly Val Ile Arg Asp Asp Arg Gly Val Ile Pro Val Asp Glu  
290 295 300  
Thr Met Arg Thr Asn Val Pro Asn Ile Tyr Ala Ile Gly Asp Ile Thr  
305 310 315 320  
Gly Lys Trp Leu Leu Ala His Val Ala Ser His Gln Gly Val Ile Ala  
325 330 335  
Ala Lys Asn Ile Ser Gly His His Glu Val Met Asp Tyr Ser Ala Ile  
340 345 350  
Pro Ser Val Ile Phe Thr His Pro Glu Ile Ala Met Val Gly Leu Ser  
355 360 365  
Leu Gln Glu Ala Glu Gln Gln Asn Leu Pro Ala Lys Leu Thr Lys Phe  
370 375 380  
Pro Phe Lys Ala Ile Gly Lys Ala Val Ala Leu Gly Ala Ser Asp Gly  
385 390 395 400  
Phe Ala Ala Ile Val Ser His Glu Ile Thr Gln Gln Ile Leu Gly Ala  
405 410 415  
Tyr Val Ile Gly Pro His Ala Ser Ser Leu Ile Gly Glu Met Thr Leu  
420 425 430  
Ala Ile Arg Asn Glu Leu Thr Leu Pro Cys Ile Tyr Glu Thr Val His  
435 440 445  
Ala His Pro Thr Leu Ser Glu Val Trp Ala Glu Gly Ala Leu Leu Ala  
450 455 460

Thr Asn His Pro Leu His Phe Pro Pro Lys Ser  
 465 470 475

<210> 836  
 <211> 157  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 836  
 Lys Ile Pro Met Pro Phe Ala Lys Glu Thr Glu Met Gln Arg Thr Cys  
 1 5 10 15  
 Trp Lys Cys Glu Gly Ser Val Ser Met His Val Pro Gln Cys Pro Tyr  
 20 25 30  
 Cys Ser Ala Phe Leu Gln Asp Pro Val Ala Ser Gly Gly Phe Ser  
 35 40 45  
 Ser Cys His Ile Ser Phe Pro Glu Gly Ala Ser Lys Glu Glu Ala Glu  
 50 55 60  
 Asp Leu Phe Ala Val Ser Ser Glu Asp Trp Glu Ala Val Leu Gly Asp  
 65 70 75 80  
 Gln Asn Pro Thr Gln Glu Thr Asn Lys Gln Val Ile Pro Glu Trp Thr  
 85 90 95  
 Trp Leu Gln Ser Trp Pro Leu Ala Ala Leu Phe Leu Gly Ile Gly Leu  
 100 105 110  
 Leu Ala Phe Ala Phe Leu Ile Leu Leu Phe Ser Thr Asp Ser Gly Leu  
 115 120 125  
 Val Leu Thr Trp Pro Lys Asn Arg Ala Tyr Phe Tyr Gly Ile Ile Gly  
 130 135 140  
 Ala Ala Val Ala Tyr Arg Gly Tyr Arg Lys Leu Pro Leu  
 145 150 155

<210> 837  
 <211> 1218  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 837  
 His Asn Ile Met Val Leu Glu Ala Leu Ala Ile Phe Arg Gln Asp Ala  
 1 5 10 15  
 Met Gln His Leu Leu Lys His Arg Lys Glu Ile Val Val Asp Phe Cys  
 20 25 30  
 Glu Asp Ser Tyr Thr Ile Arg Ile Pro Asp Glu Glu Ala Pro Glu Gly  
 35 40 45  
 Tyr Trp Leu Ser Thr Leu Lys Leu Gln Asp Ile Asp Arg Leu Thr Phe  
 50 55 60  
 Ala Ser Cys Ser Cys Pro Asp Gly Glu Cys Cys Leu His Leu Met Thr  
 65 70 75 80  
 Ala Tyr Phe Ala Val Tyr Asp Ala Leu Gly Leu His Pro Leu His Asp  
 85 90 95  
 Lys Phe Arg His Ser Phe Trp Tyr Ala Val Phe Ser His Phe Phe Leu  
 100 105 110  
 Asp Ser Ile Pro Leu Gln Ala Gln Gly Glu Met Val Tyr Thr Leu Glu  
 115 120 125  
 Ser Pro His Ile Thr Leu Thr Ile Glu Cys Leu Ser Glu Glu Val Phe  
 130 135 140  
 Gln Asp Trp Leu Arg Thr Ile His Ala Ser Glu Glu Pro Thr Val Phe  
 145 150 155 160  
 Thr Asn Lys Thr Phe Leu Lys Ser Ala Leu Tyr Arg Thr Ala Lys Lys  
 165 170 175  
 Phe Phe Phe Leu Asn Glu Glu Gly Ala Glu Leu Thr Ile Gly Glu Asn  
 180 185 190

Ser Gln Gly Phe Pro Ser His Phe Ser Leu Gln Trp Gln Gly Leu Val  
 195 200 205  
 Phe Lys Ala Glu Ile Leu Asp Phe Pro Thr Leu Glu Asp Ile Phe Pro  
 210 215 220  
 Lys Leu Glu Leu Ala His Thr Ser Leu Glu Asn Val Ser His Asp Ile  
 225 230 235 240  
 Ser Ile Thr Asn Val Thr Val Cys Ala Glu Glu Ala Lys Val Asn Phe  
 245 250 255  
 Thr Leu Ser Pro Val Ile His Lys Lys Asp Arg Glu Asn His Pro Lys  
 260 265 270  
 Thr Arg Ile Gly Ser Val Glu Tyr Val Ala Lys Thr His Glu Met Ile  
 275 280 285  
 Thr Gly Pro Lys Ala Ile Ala Leu Pro Ile Tyr Ala Ile Pro Leu Leu  
 290 295 300  
 Ala Asp Lys Phe Lys Asp Gln Leu Leu Ser Leu Leu Cys Tyr Asp Ser  
 305 310 315 320  
 Leu Glu Tyr Arg Leu Arg Tyr Asp Ile Arg Leu Leu Arg Asp Ala Ser  
 325 330 335  
 Phe Ser Phe Ser Ala Tyr Leu Val Thr Pro Gly Asp Leu Asp Asn Gly  
 340 345 350  
 Ser Leu Ile Tyr Pro Asn Tyr Cys Tyr Ser Pro Thr Lys Gly Leu Met  
 355 360 365  
 Gln Val Val Gly Met Leu Ser Pro Lys Gln Ala Phe Ile Val Lys Ser  
 370 375 380  
 Glu Gln Val Glu Asp Phe Leu Asn Glu Arg Gly His Leu Ile Gln Glu  
 385 390 395 400  
 Pro Gly Phe Gln Thr Phe Ile Asn Glu Arg Pro Glu Gly His Leu Thr  
 405 410 415  
 Tyr Asn Val Thr Glu Gln Gly Val Leu Leu Phe His Tyr Asp Val Gly  
 420 425 430  
 Asp Pro Ser Ser Thr Glu Ile Arg Phe Gly Thr Trp Thr Tyr Tyr Thr  
 435 440 445  
 Asn Gln Gly Phe Phe Leu Glu Lys Lys Asn Asp Leu Pro Ile Gln Asp  
 450 455 460  
 Gly Leu Ile Val Glu Pro Gln Asp Ile Pro Ala Phe Ile Val Lys Asn  
 465 470 475 480  
 Asp Ala Ala Leu Arg Arg Leu Pro Asn Phe Phe Ser Ser Pro Pro Asn  
 485 490 495  
 Leu Lys Asp Leu Leu Ile Glu Val His Arg Gln Ser Arg Gly Lys Gly  
 500 505 510  
 Leu Asp Leu Lys Pro Ile Leu Val Gly Leu Gly Glu Ser Arg Cys Trp  
 515 520 525  
 Leu Phe Gly Val Phe Leu Tyr Arg Glu Asp Ile Gly Phe Ser Leu Ile  
 530 535 540  
 Pro Thr Pro Leu Gln Gly Leu Cys Phe Leu Pro Arg Val Ile Pro Pro  
 545 550 555 560  
 Glu Asn Val Pro Gln Phe Leu Thr Gln Tyr Ala Gln His Glu Arg Ile  
 565 570 575  
 Leu Phe Pro Asn Pro Gln Thr Arg Pro Pro Glu Ser Tyr Glu Leu Val  
 580 585 590  
 Ile Gln Ser Ile His Arg Pro His Pro Ala Ser Pro Leu His Leu Gln  
 595 600 605  
 Leu Glu Leu Lys Thr Asn Leu Gly Ser Val Pro Ile Gly Ile Ala Leu  
 610 615 620  
 Gln Gly Leu Lys Ser Lys His Thr Phe Leu Phe Thr Gln Ala Gly Phe  
 625 630 635 640  
 Leu Asp Leu Lys Gln Asn Leu Phe Gln Phe Leu Lys Gln Phe Leu Ser  
 645 650 655  
 Thr Gln Lys Cys Val Ile Ala Glu Asn Thr Val Ile Ala Asn Ile Thr  
 660 665 670

Asp Val Phe Lys Leu Asp Ala Leu Ala Pro Leu Ser Val Thr Asp Asp  
 675 680 685  
 Thr Ile Ala Asn Pro Glu Asp Leu Gln Phe Phe Ser Gln Leu Lys Ala  
 690 695 700  
 Ala Cys Leu Pro Pro Ile Pro Gln Asn Leu Phe Ser Ser Asp His Gln  
 705 710 715 720  
 Leu Arg Pro Tyr Gln Asn Ser Gly Leu Leu Trp Met Trp Phe Leu Tyr  
 725 730 735  
 Asn His Arg Leu Ser Gly Leu Leu Cys Asp Glu Met Gly Leu Gly Lys  
 740 745 750  
 Thr His Gln Ala Thr Ala Leu Leu Asp Ile Val Phe Gln Ser Ser Gln  
 755 760 765  
 Pro Ser Ala Arg Pro Lys Phe Leu Ile Val Cys Pro Thr Ser Val Leu  
 770 775 780  
 Pro His Trp Glu His Ile Leu Ser Asn His Leu Pro Gly Val Ser Ile  
 785 790 795 800  
 Phe Ser Phe His Gly Pro Asn Lys Pro Ser Glu Leu Pro Pro Ala Asp  
 805 810 815  
 Ile Leu Leu Thr Ser Tyr Gly Thr Leu Arg Gln Asn Tyr Asp Lys Phe  
 820 825 830  
 Tyr Lys Ile Ala Phe Thr Ile Val Val Phe Asp Glu Ile His Met Ala  
 835 840 845  
 Lys Asn Lys Ser Ser Gln Ile His Lys Ile Leu Cys Arg Ile Asp Ala  
 850 855 860  
 Gln Met Lys Leu Gly Leu Thr Gly Thr Pro Ile Glu Asn Asn Leu Leu  
 865 870 875 880  
 Glu Phe Lys Gly Leu Leu Asp Ile Ile Leu Pro Asn Tyr Leu Pro Ser  
 885 890 895  
 Asp Ala Leu Phe Lys Lys Leu Phe Thr Lys Arg Cys Ser Ser Glu Glu  
 900 905 910  
 Leu Glu Glu Ile Ile Pro Ser Gln Asp Leu Leu Leu Lys Leu Thr Arg  
 915 920 925  
 Pro Phe Ile Leu Arg Arg Thr Lys Lys Leu Val Leu Pro Glu Leu Pro  
 930 935 940  
 Asp Lys Val Glu Ser Ile Ile Ala Cys Ser Leu Ser Pro Asp Gln Glu  
 945 950 955 960  
 Lys Leu Tyr Met Ala Thr Leu Gln Arg Glu Lys Ser His Ile Gln Lys  
 965 970 975  
 Leu Glu Thr Pro Glu Glu Pro Ala Thr Asn Phe Leu His Ile Phe Ala  
 980 985 990  
 Leu Leu Asn His Leu Lys Gln Ile Cys Asp His Pro Ala Val Phe Phe  
 995 1000 1005  
 Lys Asp Pro Asp Gln Tyr Lys Asn Tyr Glu Ser Gly Lys Trp Asn Ala  
 1010 1015 1020  
 Phe Val Lys Leu Leu Lys Glu Ser Leu Asn Ala Gly Tyr Lys Val Val  
 1025 1030 1035 1040  
 Val Phe Ser Gln Tyr Ile His Met Ile Arg Ile Ile Thr Leu Tyr Leu  
 1045 1050 1055  
 Glu Glu Ile Gly Ile Lys Tyr Ala Ser Ile Gln Gly Lys Ser Leu Asn  
 1060 1065 1070  
 Arg Lys Glu Glu Ile Glu Thr Phe Thr Thr Asp Pro Asn Cys Gln Val  
 1075 1080 1085  
 Phe Val Gly Ser Leu Leu Ala Ala Gly Thr Gly Ile Asn Leu Thr Ala  
 1090 1095 1100  
 Gly Asn Val Val Ile Met Tyr Asp Arg Trp Trp Asn Pro Ala Lys Glu  
 1105 1110 1115 1120  
 Asn Gln Ala Leu Asp Arg Val His Arg Ile Gly Gln Lys Asn Thr Val  
 1125 1130 1135  
 Phe Ile Tyr Lys Leu Ile Thr Glu Asp Thr Leu Glu Glu Arg Ile His  
 1140 1145 1150

Tyr Leu Ile Glu Lys Lys Ile Arg Leu Leu Asp Lys Val Ile Ala Ser  
 1155 1160 1165  
 Gln Asp Ser Asn Ile Leu His Met Leu Asn Arg Glu Asp Leu Leu Thr  
 1170 1175 1180  
 Ile Leu Ser Tyr Lys Asp Glu His Gly Thr Ser Asp Ser Glu Glu Ser  
 1185 1190 1195 1200  
 Pro Val Asp Ala Pro Val Glu Asp Asp Thr Gly Val Leu Pro Pro Glu  
 1205 1210 1215  
 Asp Ser

<210> 838  
 <211> 413  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 838  
 Lys Met Lys Lys Asn Ala Ser His Lys Thr Asn Asp Lys Lys Ser Leu  
 1 5 10 15  
 Ser Ile Trp Ser Ile Gly Gly Ser Ile Phe Ala Met Phe Phe Gly Ala  
 20 25 30  
 Gly Asn Ile Val Phe Pro Leu Ala Leu Gly Tyr His Tyr Asn Ala His  
 35 40 45  
 Pro Trp Ser Ala Tyr Phe Gly Met Met Leu Thr Ala Val Cys Val Pro  
 50 55 60  
 Leu Leu Gly Leu Val Ser Met Leu Phe Tyr Ser Gly Asp Tyr Gln Lys  
 65 70 75 80  
 Phe Phe Phe Ser Ile Gly Arg Ile Pro Gly Met Ile Phe Ile Thr Ala  
 85 90 95  
 Ile Ile Leu Leu Ile Gly Pro Phe Gly Gly Ile Pro Arg Ala Ile Ala  
 100 105 110  
 Val Ser His Ala Thr Leu Ile Ser Leu Ser Glu His Lys Ser Ala Phe  
 115 120 125  
 Ile Pro Ser Leu Pro Ile Phe Ser Ala Ile Cys Cys Val Leu Ile Tyr  
 130 135 140  
 Ile Phe Ser Cys Lys Leu Ser Arg Leu Ile Gln Trp Leu Gly Ser Val  
 145 150 155 160  
 Phe Phe Pro Ile Met Leu Val Thr Leu Leu Trp Val Ile Ile Arg Ser  
 165 170 175  
 Phe Met Ile Pro Thr His Pro Met Val Gln Glu Phe Ile Pro Asn Ala  
 180 185 190  
 Arg Gln Ala Trp Leu Ala Gly Phe Ile Glu Gly Phe Asn Thr Met Asp  
 195 200 205  
 Leu Leu Ala Ala Phe Phe Phe Cys Ser Ile Val Leu Ile Ser Leu Arg  
 210 215 220  
 Gln Leu Val Ala Glu Glu Lys His Pro Thr Glu Glu Glu Ile Pro Leu  
 225 230 235 240  
 Ser Phe Gln Gly Ile Ser Lys Lys Asn Lys Arg Ser Leu Ala Leu Gly  
 245 250 255  
 Phe Phe Leu Ala Ala Ile Leu Leu Gly Met Thr Tyr Leu Gly Phe Val  
 260 265 270  
 Leu Ser Ala Ala Arg His Ala Gly Leu Leu Val Asn Val Ser Lys Gly  
 275 280 285  
 His Ile Leu Gly Arg Ile Ser Ala Ile Ala Leu Gly Pro Asn Ser Ile  
 290 295 300  
 Leu Ala Gly Val Ser Val Phe Ile Ala Cys Leu Thr Thr Glu Ile Ala  
 305 310 315 320  
 Leu Val Gly Ile Val Ala Asp Phe Leu Ala Arg Val Val Ser Phe Lys  
 325 330 335  
 Lys Leu Asn Tyr Ala Ser Ala Val Ile Cys Thr Leu Ile Pro Thr Tyr  
 340 345 350

Leu Ile Ser Ile Leu Asn Phe Glu Thr Ile Ser His Leu Leu Leu Pro  
 355 360 365  
 Leu Leu Gln Leu Ser Tyr Pro Ala Leu Ile Val Leu Ala Cys Gly Asn  
 370 375 380  
 Ile Ala Tyr Lys Leu Trp Asn Phe Arg Tyr Ser Pro Val Leu Phe Tyr  
 385 390 395 400  
 Leu Thr Leu Ser Leu Thr Ile Val Leu Lys Leu Val Asn  
 405 410

<210> 839  
 <211> 211  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 839  
 Leu Thr Met Lys Gln Phe Ile Leu Arg Thr Leu Asn Ala Leu Phe Pro  
 1 5 10 15  
 Asn Pro Lys Pro Ser Leu Glu Gly Trp Ser Ser Pro Phe Gln Leu Leu  
 20 25 30  
 Ile Ala Ile Leu Leu Ser Gly Asn Ser Thr Asp Lys Ala Val Asn Ser  
 35 40 45  
 Val Thr Pro Gln Leu Phe Ala Lys Ala Pro Asp Ala Gln Ser Ile Leu  
 50 55 60  
 Asp Leu Pro Pro Gly Lys Leu Tyr Gln Leu Ile Ala Pro Cys Gly Leu  
 65 70 75 80  
 Gly Glu Arg Lys Ser Ala Tyr Ile Tyr Gln Leu Ser Gln Ile Leu Val  
 85 90 95  
 Arg Asp Phe His Gly Glu Pro Pro Asn Asp Met Ala Leu Leu Thr Gln  
 100 105 110  
 Leu Pro Gly Val Gly Arg Lys Thr Ala Ser Val Phe Leu Gly Ile Ala  
 115 120 125  
 Tyr Gly Lys Pro Thr Phe Pro Val Asp Thr His Ile Leu Arg Leu Ala  
 130 135 140  
 Gln Arg Trp Lys Ile Ser Glu Lys Lys Ser Pro Ser Ala Ala Glu Lys  
 145 150 155 160  
 Asp Leu Ala Arg Phe Phe Gly His Glu Asn Thr Pro Lys Leu His Leu  
 165 170 175  
 Gln Leu Ile Tyr Tyr Ala Arg Gln Tyr Cys Pro Ala Leu His His Lys  
 180 185 190  
 Ile Asp Asn Cys Pro Ile Cys Ser Tyr Leu Ala Lys Glu Ala Asn Ser  
 195 200 205  
 Thr Arg Thr  
 210

<210> 840  
 <211> 472  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 840  
 Ile Ser Leu Asn Ile Tyr Pro Asn Ser Phe His Leu Phe Asn Leu Lys  
 1 5 10 15  
 Leu Gly Ile Leu Ser Glu Ser Ser Phe Asn Phe Ser Ile Phe Met Leu  
 20 25 30  
 Lys His Asp Thr Ile Ala Ala Ile Ala Thr Pro Pro Gly Glu Gly Ser  
 35 40 45  
 Ile Ala Val Val Arg Leu Ser Gly Pro Gln Ala Ile Val Ile Ala Asp  
 50 55 60  
 Arg Ile Phe Ser Gly Ser Val Ala Ser Phe Ala Ser His Thr Ile His  
 65 70 75 80



Leu Gly Gln Val Ile Phe Glu Glu Thr Leu Ile Asp Gln Ala Leu Leu  
 85 90 95  
 Leu Leu Met Arg Ser Pro Arg Ser Phe Thr Gly Glu Asp Val Val Glu  
 100 105 110  
 Phe Gln Cys His Gly Gly Phe Phe Ala Cys Ser Gln Ile Leu Asp Ala  
 115 120 125  
 Leu Ile Ala Leu Gly Ala Arg Pro Ala Leu Pro Gly Glu Phe Ser Gln  
 130 135 140  
 Arg Ala Phe Leu Asn Gly Lys Ile Asp Leu Val Gln Ala Glu Ala Ile  
 145 150 155 160  
 Gln Asn Leu Ile Val Ala Glu Asn Ile Asp Ala Phe Arg Ile Ala Gln  
 165 170 175  
 Thr His Phe Gln Gly Asn Phe Ser Lys Lys Ile Gln Glu Ile His Thr  
 180 185 190  
 Leu Ile Ile Glu Ala Leu Ala Phe Leu Glu Val Leu Ala Asp Phe Pro  
 195 200 205  
 Glu Glu Glu Gln Pro Asp Leu Val Pro Gln Glu Lys Ile Gln Asn  
 210 215 220  
 Ala Leu His Ile Val Glu Asp Phe Ile Ser Ser Phe Asp Glu Gly Gln  
 225 230 235 240  
 Arg Leu Ala Gln Gly Thr Ser Leu Ile Leu Ala Gly Lys Pro Asn Val  
 245 250 255  
 Gly Lys Ser Ser Leu Leu Asn Ala Leu Leu Gln Lys Asn Arg Ala Ile  
 260 265 270  
 Val Thr His Ile Pro Gly Thr Thr Arg Asp Ile Leu Glu Glu Gln Trp  
 275 280 285  
 Leu Leu Gln Gly Lys Arg Ile Arg Leu Leu Asp Thr Ala Gly Gln Arg  
 290 295 300  
 Thr Thr Asp Asn Asp Ile Glu Lys Glu Gly Ile Glu Arg Ala Leu Ser  
 305 310 315 320  
 Ala Met Glu Glu Ala Asp Gly Ile Leu Trp Val Ile Asp Ala Thr Gln  
 325 330 335  
 Pro Leu Glu Asp Leu Pro Lys Ile Leu Phe Thr Lys Pro Ser Phe Leu  
 340 345 350  
 Leu Trp Asn Lys Ala Asp Leu Thr Pro Pro Phe Leu Asp Thr Ser  
 355 360 365  
 Leu Pro Gln Phe Ala Ile Ser Ala Lys Thr Gly Glu Gly Leu Thr Gln  
 370 375 380  
 Val Lys Gln Ala Leu Ile Gln Trp Met Gln Lys Gln Glu Ala Gly Lys  
 385 390 395 400  
 Thr Ser Lys Val Phe Leu Val Ser Ser Arg His His Met Ile Leu Gln  
 405 410 415  
 Glu Val Ala Arg Cys Leu Lys Glu Ala Gln Gln Asn Leu Tyr Leu Gln  
 420 425 430  
 Pro Pro Glu Ile Ile Ala Leu Glu Leu Arg Glu Ala Leu His Ser Ile  
 435 440 445  
 Gly Met Leu Ser Gly Lys Glu Val Thr Glu Ser Ile Leu Gly Glu Ile  
 450 455 460  
 Phe Ser Lys Phe Cys Ile Gly Lys  
 465 470

<210> 841  
 <211> 310  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 841  
 Phe Leu Phe Ile Val Ser Arg Gly Leu Val Gln Lys Pro Gln Tyr Ile  
 1 5 10 15  
 Asp Arg Ile Thr Lys Lys Lys Val Ile Glu Pro Ile Phe Tyr Glu Lys  
 20 25 30

Thr Met Leu Phe Leu Tyr Asn Ser Lys Leu Gly Lys Lys Leu Ser Val  
 35 40 45  
 Phe Leu Ser Thr His Pro Ile Phe Ser Arg Ile Tyr Gly Trp Leu Gln  
 50 55 60  
 Arg Cys Ser Trp Thr Arg Arg Gln Ile Arg Pro Phe Met Asn Arg Tyr  
 65 70 75 80  
 Lys Ile Ser Glu Lys Glu Leu Thr Lys Pro Val Ala Asp Phe Thr Ser  
 85 90 95  
 Phe Asn Asp Phe Phe Thr Arg Lys Leu Lys Pro Glu Ala Arg Pro Ile  
 100 105 110  
 Val Gly Gly Lys Glu Val Phe Ile Thr Pro Val Asp Gly Arg Tyr Leu  
 115 120 125  
 Val Tyr Pro Asn Val Ser Glu Phe Asp Lys Phe Ile Val Lys Ser Lys  
 130 135 140  
 Ala Phe Ser Leu Pro Lys Leu Leu Gly Asp His Glu Leu Thr Lys Leu  
 145 150 155 160  
 Tyr Ala His Gly Ser Ile Val Phe Ala Arg Leu Ala Pro Phe Asp Tyr  
 165 170 175  
 His Arg Phe His Phe Pro Cys Asp Cys Leu Pro Gln Lys Thr Arg Cys  
 180 185 190  
 Val Asn Gly Ala Leu Phe Ser Val His Pro Leu Ala Val Lys Asp Asn  
 195 200 205  
 Phe Ile Leu Phe Cys Glu Asn Lys Arg Thr Val Thr Val Leu Glu Thr  
 210 215 220  
 Glu Gln Phe Gly Asn Val Leu Tyr Leu Glu Val Gly Ala Met Asn Val  
 225 230 235 240  
 Gly Ser Ile Val Gln Thr Phe Ser Pro Asn Gln Thr Tyr Ala Lys Gly  
 245 250 255  
 Asp Glu Lys Gly Phe Phe Ala Phe Gly Gly Ser Thr Val Ile Leu Leu  
 260 265 270  
 Phe Leu Pro Asn Ala Ile Arg Phe Asp Asn Asp Leu Leu Lys Asn Ser  
 275 280 285  
 Arg Met Gly Phe Glu Thr Arg Cys Leu Met Gly Gln Ser Leu Gly Arg  
 290 295 300  
 Ser Gln Arg Glu Glu Ile  
 305 310

<210> 842  
 <211> 468  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 842  
 Ile Ser Glu Arg Arg Asn Leu Lys Thr Leu Lys Thr Phe Phe Gly Ile  
 1 5 10 15  
 Ala Lys Arg Asp Lys Ser Gln Lys Trp Arg Ile Met Trp Leu Val Ile  
 20 25 30  
 Leu Trp Ala Leu Ala Ala Ser Leu Ala Ile Ala Leu Val Ala Lys Gly  
 35 40 45  
 Tyr Tyr Arg Phe Val Tyr Phe Arg Arg Tyr Ala Val Gln Val Ile Arg  
 50 55 60  
 Glu Val Arg Leu Ser Met Glu Leu Lys Glu Trp Ala Leu Ala Glu Gln  
 65 70 75 80  
 Gln Leu Leu Pro Ile Leu Lys Lys Arg Ser Tyr Arg Arg Gln Cys Leu  
 85 90 95  
 Phe Glu Tyr Met Arg Ile Leu Arg Lys Met Gln Arg Phe Glu Glu Ser  
 100 105 110  
 Glu Lys Leu Leu Ala Glu Ala Lys Lys Leu Gly Leu Arg Gly Pro Tyr  
 115 120 125  
 Phe Phe Leu Glu Ile Ala Tyr Lys Ala Tyr Arg Phe Gly Ala Phe Lys  
 130 135 140

Glu Cys Ala Gln Ala Phe Ala Ser Val Pro Gln Asp Leu Phe Glu Glu  
 145 150 155 160  
 Glu Asp Ala Ala Lys Tyr Ala Ser Ala Leu Val Arg Leu Gly Asp Leu  
 165 170 175  
 Asp Ala Ala Cys Ser Leu Ile Glu Pro Trp Ile Ser Pro Leu Ser His  
 180 185 190  
 Gln Glu Thr Phe Val Thr Met Gly His Ile Tyr Phe Thr Ser Lys Arg  
 195 200 205  
 Tyr Lys Asp Ala Ile Asp Phe Tyr Asn Arg Ala Asn Ala Leu Gly Val  
 210 215 220  
 Cys Pro Val Glu Val Thr Tyr Asn Leu Ala Gln Ala Tyr Arg Ile Thr  
 225 230 235 240  
 Ser Ser Tyr Ala Lys Ala Gly Lys Leu Phe Arg Lys Leu Leu Ser Asn  
 245 250 255  
 Pro Val Tyr Lys Glu Glu Ala Leu Phe Asn Ile Gly Leu Cys Glu Gln  
 260 265 270  
 Lys Leu Gly Arg Pro Gly Lys Ala Leu Leu Ile Tyr Gln Ser Ser Asp  
 275 280 285  
 Leu Trp Ser Arg Gly Asp Ala Leu Leu Met Lys Tyr Ala Ala Met Ala  
 290 295 300  
 Ala Met Asp Gln Arg Asp Tyr Val Leu Ala Glu Pro Cys Trp Glu Leu  
 305 310 315 320  
 Ala Leu Arg Cys Ser Thr Phe Ala Lys Asp Tyr Lys Cys Gly Leu Gly  
 325 330 335  
 Tyr Gly Phe Ser Leu Cys Arg Leu Arg Lys Tyr Gly Asp Ala Glu Arg  
 340 345 350  
 Val Tyr Cys Asn Leu Ile Gln Asn Phe Pro Glu Cys Leu Thr Ala Cys  
 355 360 365  
 Lys Ala Leu Ala Trp Leu Cys Gly Val Gly Tyr Ala Thr Leu Leu Gly  
 370 375 380  
 Ser Glu Glu Gly Leu Met Tyr Ala Lys Lys Ala Val Glu Leu Asp His  
 385 390 395 400  
 Ser Cys Glu Thr Leu Glu Leu Leu Ser Ala Cys Glu Ala Arg Cys Gly  
 405 410 415  
 Asn Phe Asp Ala Ala Tyr Glu Ile Gln Ser Phe Leu Ser Ser Arg Asp  
 420 425 430  
 Thr Ser Leu Gln Glu Lys Gln Arg Arg Ser Gln Ile Leu Arg Ile Leu  
 435 440 445  
 Arg Lys Lys Leu Pro Leu Asn Asp His His Ile Val Glu Val Asp Ala  
 450 455 460  
 Leu Leu Ala Ala  
 465

<210> 843  
 <211> 974  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 843  
 Ile Lys Arg His Met Leu Gly Phe Leu Lys Arg Phe Phe Gly Ser Ser  
 1 5 10 15  
 Gln Glu Arg Ile Leu Lys Lys Phe Gln Lys Leu Val Asp Lys Val Asn  
 20 25 30  
 Ile Tyr Asp Glu Met Leu Thr Pro Leu Ser Asp Asp Glu Leu Arg Asn  
 35 40 45  
 Lys Thr Ala Glu Leu Lys Gln Arg Tyr Gln Asn Gly Glu Ser Leu Asp  
 50 55 60  
 Ser Met Leu Pro Glu Ala Tyr Gly Val Val Lys Asn Val Cys Arg Arg  
 65 70 75 80  
 Leu Ala Gly Thr Pro Val Glu Val Ser Gly Tyr His Gln Arg Trp Asp  
 85 90 95

Met Val Pro Tyr Asp Val Gln Ile Leu Gly Ala Ile Ala Met His Lys  
 100 105 110  
 Gly Phe Ile Thr Glu Met Gln Thr Gly Glu Gly Lys Thr Leu Thr Ala  
 115 120 125  
 Val Met Pro Leu Tyr Leu Asn Ala Leu Thr Gly Lys Pro Val His Leu  
 130 135 140  
 Val Thr Val Asn Asp Tyr Leu Ala Gln Arg Asp Cys Glu Trp Val Gly  
 145 150 155 160  
 Ser Val Leu Arg Trp Leu Gly Leu Thr Thr Gly Val Leu Val Ser Gly  
 165 170 175  
 Thr Leu Leu Glu Lys Arg Lys Lys Ile Tyr Gln Cys Asp Val Val Tyr  
 180 185 190  
 Gly Thr Ala Ser Glu Phe Gly Phe Asp Tyr Leu Arg Asp Asn Ser Ile  
 195 200 205  
 Ala Thr Arg Leu Glu Glu Gln Val Gly Arg Gly Tyr Tyr Phe Ala Ile  
 210 215 220  
 Ile Asp Glu Val Asp Ser Ile Leu Ile Asp Glu Ala Arg Thr Pro Leu  
 225 230 235 240  
 Ile Ile Ser Gly Pro Gly Glu Lys His Asn Pro Val Tyr Phe Glu Leu  
 245 250 255  
 Lys Glu Lys Val Ala Ser Leu Val Tyr Leu Gln Lys Glu Leu Cys Ser  
 260 265 270  
 Arg Ile Ala Leu Glu Ala Arg Arg Gly Leu Asp Ser Phe Leu Asp Val  
 275 280 285  
 Asp Ile Leu Pro Lys Asp Lys Lys Val Leu Glu Gly Ile Ser Glu Phe  
 290 295 300  
 Cys Arg Ser Leu Trp Leu Val Ser Lys Gly Met Pro Leu Asn Arg Val  
 305 310 315 320  
 Leu Arg Arg Val Arg Glu His Pro Asp Leu Arg Ala Met Ile Asp Lys  
 325 330 335  
 Trp Asp Val Tyr Tyr His Ala Glu Gln Asn Lys Glu Glu Ser Leu Glu  
 340 345 350  
 Arg Leu Ser Glu Leu Tyr Ile Ile Val Asp Glu His Asn Asn Asp Phe  
 355 360 365  
 Glu Leu Thr Asp Lys Gly Met Gln Gln Trp Val Glu Tyr Ala Gly Gly  
 370 375 380  
 Ser Thr Glu Glu Phe Val Met Met Asp Met Gly His Glu Tyr Ala Leu  
 385 390 395 400  
 Ile Glu Asn Asp Glu Thr Leu Ser Pro Ala Asp Lys Ile Asn Lys Lys  
 405 410 415  
 Ile Ala Ile Ser Glu Glu Asp Thr Leu Arg Lys Ala Arg Ala His Gly  
 420 425 430  
 Leu Arg Gln Leu Leu Arg Ala Gln Leu Leu Met Glu Arg Asp Val Asp  
 435 440 445  
 Tyr Ile Val Arg Asp Asp Gln Ile Val Ile Ile Asp Glu His Thr Gly  
 450 455 460  
 Arg Pro Gln Pro Gly Arg Arg Phe Ser Glu Gly Leu His Gln Ala Ile  
 465 470 475 480  
 Glu Ala Lys Glu His Val Thr Ile Arg Lys Glu Ser Gln Thr Leu Ala  
 485 490 495  
 Thr Val Thr Leu Gln Asn Phe Phe Arg Leu Tyr Glu Lys Leu Ala Gly  
 500 505 510  
 Met Thr Gly Thr Ala Ile Thr Glu Ser Arg Glu Phe Lys Glu Ile Tyr  
 515 520 525  
 Asn Leu Tyr Val Leu Gln Val Pro Thr Phe Lys Pro Cys Leu Arg Ile  
 530 535 540  
 Asp His Asn Asp Glu Phe Tyr Met Thr Glu Arg Glu Lys Tyr His Ala  
 545 550 555 560  
 Ile Val Asn Glu Ile Ala Thr Ile His Gly Lys Gly Asn Pro Ile Leu  
 565 570 575

Val Gly Thr Glu Ser Val Glu Val Ser Glu Lys Leu Ser Arg Ile Leu  
 580 585 590  
 Arg Gln Asn Arg Ile Glu His Thr Val Leu Asn Ala Lys Asn His Ala  
 595 600 605  
 Gln Glu Ala Glu Ile Ile Ala Gly Ala Gly Lys Leu Gly Ala Val Thr  
 610 615 620  
 Val Ala Thr Asn Met Ala Gly Arg Gly Thr Asp Ile Lys Leu Asp Asn  
 625 630 635 640  
 Glu Ala Val Ile Val Gly Gly Leu His Val Ile Gly Thr Thr Arg His  
 645 650 655  
 Gln Ser Arg Arg Ile Asp Arg Gln Leu Arg Gly Arg Cys Ala Arg Leu  
 660 665 670  
 Gly Asp Pro Gly Ala Ala Lys Phe Phe Leu Ser Phe Glu Asp Arg Leu  
 675 680 685  
 Met Arg Leu Phe Ala Ser Pro Lys Leu Asn Thr Leu Ile Arg His Phe  
 690 695 700  
 Arg Pro Pro Glu Gly Glu Ala Met Ser Asp Pro Met Phe Asn Arg Leu  
 705 710 715 720  
 Ile Glu Thr Ala Gln Lys Arg Val Glu Gly Arg Asn Tyr Thr Ile Arg  
 725 730 735  
 Lys His Thr Leu Glu Tyr Asp Asp Val Met Asn Lys Gln Arg Gln Ala  
 740 745 750  
 Ile Tyr Ala Phe Arg His Asp Val Leu His Ala Glu Ser Val Phe Asp  
 755 760 765  
 Leu Ala Lys Glu Ile Leu Cys His Val Ser Leu Met Val Ala Ser Leu  
 770 775 780  
 Val Met Ser Asp Arg Gln Phe Lys Gly Trp Thr Leu Pro Asn Leu Glu  
 785 790 795 800  
 Glu Trp Ile Thr Ser Ser Phe Pro Ile Ala Leu Asn Ile Glu Glu Leu  
 805 810 815  
 Arg Gln Leu Lys Asp Thr Asp Ser Ile Ala Glu Lys Ile Ala Ala Glu  
 820 825 830  
 Leu Ile Gln Glu Phe Gln Val Arg Phe Asp His Met Val Glu Gly Leu  
 835 840 845  
 Ser Lys Ala Gly Gly Glu Glu Leu Asp Ala Ser Ala Ile Cys Arg Asp  
 850 855 860  
 Val Val Arg Ser Val Met Val Met His Ile Asp Glu Gln Trp Arg Ile  
 865 870 875 880  
 His Leu Val Asp Met Asp Leu Leu Arg Ser Glu Val Gly Leu Arg Thr  
 885 890 895  
 Val Gly Gln Lys Asp Pro Leu Leu Glu Phe Lys His Glu Ser Phe Leu  
 900 905 910  
 Leu Phe Glu Ser Leu Ile Arg Asp Ile Arg Ile Thr Ile Ala Arg His  
 915 920 925  
 Leu Phe Arg Leu Glu Leu Thr Val Glu Pro Asn Pro Arg Val Asn Asn  
 930 935 940  
 Val Ile Pro Thr Val Ala Thr Ser Phe His Asn Asn Val Asn Tyr Gly  
 945 950 955 960  
 Pro Leu Glu Leu Thr Val Val Thr Asp Ser Glu Asp Gln Asp  
 965 970

<210> 844  
 <211> 103  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 844  
 Lys Tyr Tyr Thr Pro Pro Thr Ile Ser Arg Ser Pro Trp Ser Asn Ile  
 1 5 10 15  
 Ala Leu Lys Thr Ile Ser Glu Ser Glu Tyr Asp Cys Asn Gln Gln Leu  
 20 25 30

Leu Lys Thr Gln Ser Leu Leu Thr Thr Asn Val Asp Thr Leu Leu Asn  
 35 40 45  
 Ala Pro Lys Asp Phe Pro Asn Ser Lys Asn Gln Lys His Ile Leu Phe  
 50 55 60  
 Cys Ile Ala Asn Asn Thr Leu Ser His Tyr Ala Gln Phe Leu Ile Ala  
 65 70 75 80  
 Gly Asn Arg Arg Lys Phe Trp Ile Arg Tyr Tyr Asn Asp Gln Val Trp  
 85 90 95  
 Ser Glu Trp Thr Pro Phe Ile  
 100

<210> 845  
 <211> 79  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 845  
 Asn Lys Asn Lys Leu Ile Ile Ser Trp Arg Phe Lys Val Met Asn Tyr  
 1 5 10 15  
 Asp Gln Tyr Asp Thr Pro Asp Thr Asp His Asp Gln Ile Phe Glu Asp  
 20 25 30  
 Leu Leu Asp Asn Ser Glu Glu Ala Ala Ser Leu Asp Lys Tyr Gln Glu  
 35 40 45  
 Thr Gly Val Tyr Val Glu Glu Asn Thr Asp Gln Gly Asp Leu Leu Ile  
 50 55 60  
 Val Leu Gly Glu Ser Val Phe Lys Asn Thr Ile His Gln Glu Gln  
 65 70 75

<210> 846  
 <211> 494  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 846  
 Lys Asn Arg Ile Glu Thr Ile Met Leu Lys Ile Ala Ile Leu Gly Arg  
 1 5 10 15  
 Pro Asn Val Gly Lys Ser Ser Leu Phe Asn Arg Leu Cys Lys Arg Ser  
 20 25 30  
 Leu Ala Ile Val Asn Ser Gln Glu Gly Thr Thr Arg Asp Arg Leu Tyr  
 35 40 45  
 Gly Glu Leu His Ala Phe Gly Val Pro Ala Gln Val Ile Asp Thr Gly  
 50 55 60  
 Gly Val Asp His Asn Ser Glu Asp Tyr Phe Gln Lys His Ile Tyr Asn  
 65 70 75 80  
 Gln Ala Leu Thr Gly Ala Lys Glu Ala Asp Val Leu Leu Leu Val Ile  
 85 90 95  
 Asp Ile Arg Cys Gly Ile Thr Glu Glu Asp Ala His Leu Ala Lys Leu  
 100 105 110  
 Leu Leu Pro Leu Lys Lys Pro Leu Ile Leu Val Ala Asn Lys Ala Asp  
 115 120 125  
 Ser Arg Gln Glu Glu Leu Gln Ile His Glu Thr Tyr Lys Leu Gly Ile  
 130 135 140  
 Arg Asp Ile Val Val Thr Ser Thr Ala His Asp Lys His Ile Asp Thr  
 145 150 155 160  
 Leu Leu Gln Arg Ile Lys Leu Val Ala Asn Leu Pro Glu Pro Arg Glu  
 165 170 175  
 Glu Glu Glu Glu Gly Leu Glu Glu Leu Ser Val Asp Glu His Glu Glu  
 180 185 190  
 Ser Glu Ala Ala Leu Pro Ser Asn Thr Phe Pro Asp Phe Ser Glu Val  
 195 200 205

Phe Thr Glu Gly Phe Ser Pro Glu Glu Pro Cys Thr Ile Pro Glu Ser  
 210 215 220  
 Pro Gln Gln Ala Pro Lys Thr Leu Lys Ile Ala Leu Ile Gly Arg Pro  
 225 230 235 240  
 Asn Val Gly Lys Ser Ser Ile Ile Asn Gly Leu Leu Asn Glu Glu Arg  
 245 250 255  
 Cys Ile Ile Asp Asn Thr Pro Gly Thr Thr Arg Asp Asn Ile Asp Ile  
 260 265 270  
 Leu Tyr Ser His Lys Asp Arg Gln Tyr Leu Phe Ile Asp Thr Ala Gly  
 275 280 285  
 Leu Arg Lys Met Lys Ser Val Lys Asn Ser Ile Glu Trp Ile Ser Ser  
 290 295 300  
 Ser Arg Thr Glu Lys Ala Ile Ser Arg Ala Asp Ile Cys Leu Leu Val  
 305 310 315 320  
 Ile Asp Ala Thr Gln Lys Leu Ser Ser Tyr Glu Lys Arg Ile Leu Ser  
 325 330 335  
 Leu Ile Ser Lys Arg Lys Lys Pro His Ile Ile Leu Ile Asn Lys Trp  
 340 345 350  
 Asp Leu Leu Glu Glu Val Arg Met Glu His Tyr Cys Lys Asp Leu Arg  
 355 360 365  
 Ala Thr Asp Pro Tyr Leu Gly Gln Ala Lys Met Leu Cys Ile Ser Ala  
 370 375 380  
 Thr Thr Lys Arg Asn Leu Lys Lys Ile Phe Ser Ala Ile Asp Glu Leu  
 385 390 395 400  
 His His Val Val Ser Asn Lys Val Pro Thr Pro Ile Val Asn Lys Thr  
 405 410 415  
 Leu Ala Ser Ala Leu His Arg Asn His Pro Gln Val Ile Gln Gly Arg  
 420 425 430  
 Arg Leu Arg Ile Tyr Tyr Ala Ile Gln Lys Thr Thr Thr Pro Leu Gln  
 435 440 445  
 Phe Leu Leu Phe Ile Asn Ala Lys Ser Leu Leu Thr Lys His Tyr Glu  
 450 455 460  
 Tyr Tyr Leu Lys Asn Thr Leu Lys Ser Ser Phe Asn Leu Tyr Gly Ile  
 465 470 475 480  
 Pro Phe Asp Leu Glu Phe Lys Glu Lys Pro Lys Arg His Asn  
 485 490

<210> 847  
 <211> 434  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 847  
 Ser Ala Asn Asn Tyr Gln Lys Asp Pro Arg Ser Tyr Arg Leu Ala Leu  
 1 5 10 15  
 Phe Ser Ser Tyr Phe Arg Gly Val Met Thr Thr Ile Ala Ile Glu Ala  
 20 25 30  
 Ala Lys Lys Val Leu Ile Lys Leu Arg Asn Ala Gly Tyr Gln Ala Tyr  
 35 40 45  
 Phe Val Gly Gly Cys Val Arg Asp Met Leu Met Asn Arg Pro Leu Glu  
 50 55 60  
 Asp Ile Asp Ile Ala Thr Asn Ala Ser Pro Thr Ile Val Ser Thr Ile  
 65 70 75 80  
 Phe Pro Asp Val Ile Ser Ile Gly Val Ala Phe Gly Ile Ile Val Val  
 85 90 95  
 Lys Gln Asp Gly Arg Leu Phe Glu Val Ala Thr Phe Arg Ser Asp Gly  
 100 105 110  
 Glu Tyr Lys Asp Gly Arg His Pro Asp Arg Ile Ile Phe Ser Ser Met  
 115 120 125  
 Arg Glu Asp Ala Leu Arg Arg Asp Phe Thr Val Asn Gly Met Tyr Tyr  
 130 135 140

Asp Pro Phe Glu Asp Lys Val Phe Asp Phe Val Glu Gly Thr Arg Asp  
 145 150 155 160  
 Ile Glu Lys Lys Val Ile Arg Ala Ile Gly His Pro Arg Leu Arg Phe  
 165 170 175  
 Ser Glu Asp Lys Leu Arg Ile Leu Arg Ala Ile Arg Phe Ser Ser Ser  
 180 185 190  
 Leu Gly Phe Thr Leu Asp Pro Thr Thr Glu Arg Ala Ile Ile Lys Glu  
 195 200 205  
 Ala Pro Ala Leu Val Asn Ser Val Ser Pro Glu Arg Ile Trp Gln Glu  
 210 215 220  
 Leu Lys Lys Met Leu Lys Arg Gln Pro Tyr Gly Ala Leu Ser Leu Leu  
 225 230 235 240  
 Leu Lys Leu Lys Val Leu Ile Phe Ile Phe Pro Glu Leu Arg Asp Ile  
 245 250 255  
 Pro Tyr Ser Leu Leu Arg Thr Thr Ile Glu Phe Ala Arg Lys Phe Asn  
 260 265 270  
 Pro Thr His Phe Pro Glu Ile Leu Phe Leu Leu Pro Leu Phe Gln Gly  
 275 280 285  
 Val Ser Glu Glu Ala Ala Thr Val Ala Phe Gly Arg Leu Arg Ile Ser  
 290 295 300  
 Asn Lys Glu Leu Lys Leu Ile Glu Ser Trp Tyr Glu Ala Leu Pro His  
 305 310 315 320  
 Phe Gln Asn Gln Ser Gly Asn Arg Val Phe Trp Ala His Phe Leu Ala  
 325 330 335  
 Ser Pro Thr Ala Pro Leu Phe Leu Glu Leu Phe Ser Ala Leu Gln Lys  
 340 345 350  
 Asp Pro Ser Arg Gln Gln His Phe Ile Ser Arg Val Gln Glu Leu Glu  
 355 360 365  
 Ser Arg Leu Glu Gln Phe Ile Leu Arg Ile Lys Thr Ser Ser Pro Val  
 370 375 380  
 Val Ser Ala Pro Asp Leu Ile Ala Lys Gly Ile Ser Pro Gly Arg Leu  
 385 390 395 400  
 Leu Gly Asp Leu Leu Arg Glu Ala Glu Ile Leu Ser Ile Glu Asn Glu  
 405 410 415  
 Cys Leu Asp Lys Glu Lys Ile Leu Leu Leu Leu Gln Glu Lys Gly Phe  
 420 425 430  
 Trp Lys

<210> 848  
 <211> 424  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 848  
 Arg Glu His Met Asn Lys Lys Asn Leu Thr Ile Cys Ser Phe Cys Gly  
 1 5 10 15  
 Arg Ser Glu Lys Asp Val Glu Lys Leu Ile Ala Gly Pro Ser Val Tyr  
 20 25 30  
 Ile Cys Asp Tyr Cys Ile Lys Leu Cys Ser Gly Ile Leu Asp Lys Lys  
 35 40 45  
 Pro Ser Ser Thr Ile Ser Ser Ala Pro Val Ser Glu Thr Pro Ser Gln  
 50 55 60  
 Pro Ser Asp Leu Arg Val Leu Thr Pro Lys Glu Ile Lys Lys His Ile  
 65 70 75 80  
 Asp Glu Tyr Val Ile Gly Gln Glu Arg Ala Lys Lys Thr Ile Ala Val  
 85 90 95  
 Ala Val Tyr Asn His Tyr Lys Arg Ile Arg Ala Leu Leu His Asn Lys  
 100 105 110  
 Gln Val Ser Tyr Gly Lys Ser Asn Val Leu Leu Leu Gly Pro Thr Gly  
 115 120 125



Ser Gly Lys Thr Leu Ile Ala Lys Thr Leu Ala Lys Ile Leu Asp Val  
 130 135 140  
 Pro Phe Thr Ile Ala Asp Ala Thr Thr Leu Thr Glu Ala Gly Tyr Val  
 145 150 155 160  
 Gly Glu Asp Val Glu Asn Ile Val Leu Arg Leu Leu Gln Ala Ala Asp  
 165 170 175  
 Tyr Asp Val Ala Arg Ala Glu Arg Gly Ile Ile Tyr Ile Asp Glu Ile  
 180 185 190  
 Asp Lys Ile Gly Arg Thr Thr Ala Asn Val Ser Ile Thr Arg Asp Val  
 195 200 205  
 Ser Gly Glu Gly Val Gln Gln Ala Leu Leu Lys Ile Val Glu Gly Thr  
 210 215 220  
 Thr Ala Asn Val Pro Pro Lys Gly Gly Arg Lys His Pro Asn Gln Glu  
 225 230 235 240  
 Tyr Ile Arg Val Asn Thr Glu Asn Ile Leu Phe Ile Val Gly Gly Ala  
 245 250 255  
 Phe Val Asn Leu Asp Lys Ile Ile Ala Lys Arg Leu Gly Lys Thr Thr  
 260 265 270  
 Ile Gly Phe Ser Asp Asp Gln Ala Asp Leu Ser Gln Lys Thr Arg Asp  
 275 280 285  
 His Leu Leu Ala Lys Val Glu Thr Glu Asp Leu Ile Ala Phe Gly Met  
 290 295 300  
 Ile Pro Glu Phe Val Gly Arg Phe Asn Cys Ile Val Asn Cys Glu Glu  
 305 310 315 320  
 Leu Ser Leu Asp Glu Leu Val Ala Ile Leu Thr Glu Pro Thr Asn Ala  
 325 330 335  
 Ile Val Lys Gln Tyr Met Glu Leu Phe Ala Glu Glu Asn Val Lys Leu  
 340 345 350  
 Val Phe Lys Lys Glu Ala Leu Tyr Ala Ile Ala Lys Lys Ala Lys Gln  
 355 360 365  
 Ala Lys Thr Gly Ala Arg Ala Leu Gly Met Ile Leu Glu Asn Leu Leu  
 370 375 380  
 Arg Asp Leu Met Phe Glu Ile Pro Ser Asp Pro Thr Val Glu Ala Ile  
 385 390 395 400  
 His Ile Gln Glu Asp Thr Ile Ala Glu Asn Lys Ala Pro Ile Ile Ile  
 405 410 415  
 Arg Arg Thr Pro Glu Ala Ile Ala  
 420

<210> 849  
 <211> 211  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 849  
 Lys Leu Phe Asp Glu Glu Thr Gln Met Thr Leu Val Pro Tyr Val Val  
 1 5 10 15  
 Glu Asp Thr Gly Arg Gly Glu Arg Ala Met Asp Ile Tyr Ser Arg Leu  
 20 25 30  
 Leu Lys Asp Arg Ile Val Met Ile Gly Gln Glu Ile Thr Glu Pro Leu  
 35 40 45  
 Ala Asn Thr Val Ile Ala Gln Leu Leu Phe Leu Met Ser Glu Asp Pro  
 50 55 60  
 Lys Lys Asp Ile Gln Ile Phe Ile Asn Ser Pro Gly Gly Tyr Ile Thr  
 65 70 75 80  
 Ala Gly Leu Ala Ile Tyr Asp Thr Ile Arg Phe Leu Gly Cys Asp Val  
 85 90 95  
 Asn Thr Tyr Cys Ile Gly Gln Ala Ala Ser Met Gly Ala Leu Leu Leu  
 100 105 110  
 Ser Ala Gly Thr Lys Gly Lys Arg His Ala Leu Pro His Ser Arg Met  
 115 120 125

Met Ile His Gln Pro Ser Gly Gly Ile Ile Gly Thr Ser Ala Asp Ile  
 130 135 140  
 Gln Leu Gln Ala Ala Glu Ile Leu Thr Leu Lys Lys His Leu Ala Asn  
 145 150 155 160  
 Ile Leu Ser Glu Cys Thr Gly Gln Pro Val Glu Lys Ile Ile Glu Asp  
 165 170 175  
 Ser Glu Arg Asp Phe Phe Met Gly Ala Glu Glu Ala Ile Ser Tyr Gly  
 180 185 190  
 Leu Ile Asp Lys Val Val Thr Ser Ala Lys Glu Thr Asn Lys Asp Thr  
 195 200 205  
 Ser Ser Thr  
 210

<210> 850

<211> 460

<212> PRT

<213> Chlamydia pneumoniae

<400> 850  
 Val Gln Ala Ser Ser Pro Ala Phe Pro Phe Lys Ser Asn Lys Lys Gly  
 1 5 10 15  
 Cys Leu Val Pro Arg Ser Leu Ser Asn Glu Gln Phe Ser Val Asp Leu  
 20 25 30  
 Glu Glu Ser Pro Gly Cys Ile Val Ser Ala Leu Val Lys Val Ser Pro  
 35 40 45  
 Glu Val Leu Asn Lys Leu Asn Lys Gln Ala Leu Lys Lys Ile Lys Lys  
 50 55 60  
 Glu Ile Thr Leu Pro Gly Phe Arg Lys Gly Lys Ala Pro Asp Asp Val  
 65 70 75 80  
 Ile Ala Ser Arg Tyr Pro Thr Asn Val Arg Lys Glu Leu Gly Glu Leu  
 85 90 95  
 Val Thr Gln Asp Ala Tyr His Ala Leu Ser Thr Val Gly Asp Arg Arg  
 100 105 110  
 Pro Leu Ser Pro Lys Ala Val Arg Ser Asn Ser Ile Thr Gln Phe Asp  
 115 120 125  
 Leu Gln Glu Gly Ala Lys Val Glu Phe Ser Tyr Glu Ala Phe Pro Ala  
 130 135 140  
 Ile Ser Asp Leu Pro Trp Glu Asn Leu Ser Leu Pro Gln Glu Glu Ala  
 145 150 155 160  
 Ala Ser Glu Ile Ser Asp Ser Asp Ile Glu Lys Gly Leu Thr Asn Ile  
 165 170 175  
 Gly Met Phe Phe Ala Thr Lys Thr Pro Val Glu Arg Pro Ser Gln Glu  
 180 185 190  
 Gly Asp Phe Ile Ser Ile Ser Leu His Val Ser Lys Ser Asn Asp Glu  
 195 200 205  
 Asn Ala Ser Ser Ala Ala Ile Phe Glu Asn Lys Tyr Phe Lys Leu Ser  
 210 215 220  
 Glu Glu Glu Met Thr Asp Ala Phe Lys Glu Lys Phe Leu Gly Ile Ser  
 225 230 235 240  
 Thr Gly His Arg Val Val Glu Thr Ile Thr Ser Pro Glu Ile Gln Ser  
 245 250 255  
 Phe Leu Arg Gly Asp Thr Leu Thr Phe Thr Val Asn Ala Val Ile Glu  
 260 265 270  
 Val Ser Ile Pro Glu Ile Asp Asp Glu Lys Ala Arg Gln Leu Gln Ala  
 275 280 285  
 Glu Ser Leu Asp Asp Leu Lys Ala Lys Leu Arg Ile Gln Leu Glu Lys  
 290 295 300  
 Gln Ala Lys Asp Lys Gln Leu Gln Lys Arg Phe Ser Glu Ala Glu Asp  
 305 310 315 320  
 Ala Leu Ala Met Leu Val Asp Phe Glu Leu Pro Thr Ser Leu Leu Glu  
 325 330 335

Glu Arg Ile Ser Leu Ile Thr Arg Glu Lys Leu Leu Asn Ala Arg Leu  
 340 345 350  
 Ile Gln Tyr Cys Ser Asp Glu Glu Leu Glu Lys Arg Lys Ser Glu Leu  
 355 360 365  
 Ile Lys Glu Ala Glu Glu Asp Ala Thr Lys Ala Leu Lys Leu Leu Phe  
 370 375 380  
 Leu Thr His Lys Ile Phe Ser Asp Glu Lys Leu Thr Ile Ser Arg Glu  
 385 390 395 400  
 Glu Leu Gln Tyr Met Met Asp Val Cys Ser Arg Glu Arg Phe Gly Gln  
 405 410 415  
 Gln Pro Pro Lys Asp Ile Ser Asn Asp Thr Leu Gln Glu Leu Val Met  
 420 425 430  
 Ser Ala Arg Asp Arg Leu Thr Tyr Ser Lys Ala Ile Glu His Val Leu  
 435 440 445  
 Arg Lys Ala Glu Leu Leu Ala Ser Thr Pro Ser Ala  
 450 455 460

<210> 851  
 <211> 1178  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 851  
 Ala Asp Tyr Ile Ile His Ser Tyr Ser Arg Gly Glu Met Leu Asn Phe  
 1 5 10 15  
 Arg Lys Leu Arg Arg Asp Phe Ser Ala Asn Ile Leu Gln Asp Gly Lys  
 20 25 30  
 Lys Leu Phe Glu Gln Gly Ala Val Ile Asp Ala Lys Ile Leu Ser Met  
 35 40 45  
 Asn Gly Glu Thr Val Cys Ile Ser Ala Gln Val Arg Gly Leu Tyr Asp  
 50 55 60  
 Asn Ile Tyr Glu Cys Glu Ile Glu Val Asp Arg Ser Glu Ser Asp Thr  
 65 70 75 80  
 Val Asp Ser Asn Cys Asp Cys Ser Tyr Asn Tyr Asp Cys Gln His Ile  
 85 90 95  
 Val Ala Leu Leu Phe Tyr Leu Glu Gln Tyr Phe Asn Glu Met Val Val  
 100 105 110  
 Ala Tyr Ala Arg Ser Ala Asp Leu Glu Thr Asp His Glu Ile Asn Glu  
 115 120 125  
 Glu Val Lys Lys Glu Leu Lys Glu Thr Phe Val Ala Ala Thr Lys  
 130 135 140  
 Glu Glu Glu Arg Lys Asp Arg Glu His Gln Lys Glu Ile Leu Arg Glu  
 145 150 155 160  
 Tyr Val His Ala Ala Asn Ala Leu Ser Ala Asn Pro Phe Phe Leu Pro  
 165 170 175  
 Leu Glu Tyr Leu Glu Lys Asp Ser Ala Glu Leu Ala Val Leu Phe Val  
 180 185 190  
 Ser Val Asn Glu Asp Thr Phe Ala Pro Ala Asn Gln Pro Ile Glu Phe  
 195 200 205  
 Gln Leu Val Leu Arg Leu Pro Cys Arg Ser Lys Pro Phe Tyr Ile Ser  
 210 215 220  
 Asn Ile Arg Thr Phe Leu Glu Gly Val Leu Tyr Gln Glu Pro Ile Val  
 225 230 235 240  
 Leu Asn Gly Arg Arg Phe Phe Phe Thr Met Gln Ser Phe Asn Ala Ser  
 245 250 255  
 Asp Arg Lys Leu Ile Asp Leu Leu Ile Arg Tyr Val Arg Tyr Pro Asn  
 260 265 270  
 His Thr Thr Glu Glu Lys Leu Leu Lys Ser Ala Tyr Leu Met Pro Pro  
 275 280 285  
 Ala Leu Gly Val Ile Leu Ala Lys Met Phe Glu His Gln Leu Ala Asp  
 290 295 300

Arg Gly Gly Gly Ser Leu Gly Glu Lys Glu Ser Phe Ser Gly Leu Phe  
 305 310 315 320  
 Cys Gly Asn Leu Glu Glu Pro Leu Cys Trp Ser Leu Thr Pro Ala Lys  
 325 330 335  
 Met Lys Phe Asn Leu Asp Phe Phe Asp Met Pro Tyr Lys Ala Leu Leu  
 340 345 350  
 Met Thr Pro Val Ile Leu Val Asp Asp Asp Glu Val Gln Pro Glu Gln  
 355 360 365  
 Thr Met Leu Leu Glu Ser Asp Ala Pro Gly Ile Ile His His Phe Val  
 370 375 380  
 Tyr His Arg Phe Ser Pro Gln Ile Lys Arg Ala His Leu Arg Ser Phe  
 385 390 395 400  
 Ser Arg Leu Arg Asp Ile Ala Ile Pro Glu Ala Leu Phe Gly Ser Phe  
 405 410 415  
 Arg Glu Asn Ala Leu Pro Val Phe Gln Glu Tyr Ala Glu Ile Ala Asn  
 420 425 430  
 Val His Leu Leu Asn Ser Phe Val Thr Leu Pro Tyr Val Asp Glu Val  
 435 440 445  
 Arg Ala Ile Cys Asp Met Ser Tyr Leu Asp Gly Glu Leu Glu Ala Lys  
 450 455 460  
 Leu His Phe Leu Tyr Gly Ser Leu Arg Val Pro Ala Ala Ser Leu Ala  
 465 470 475 480  
 Leu Gln Tyr Gln Asp Val Arg Ala Phe Ile Ser Asp Glu Gly Ile Leu  
 485 490 495  
 Ala Arg Asn Leu Val Glu Glu Arg Lys Met Leu Glu Glu Val Phe Ser  
 500 505 510  
 Gly Phe Ile Tyr Asp Glu Arg Asp Gly Ala Phe Arg Val Lys Ser Glu  
 515 520 525  
 Lys Lys Ile Val Glu Phe Met Thr Glu Thr Ile Pro Ala Asn Gln His  
 530 535 540  
 Arg Ile Thr Phe Asn Cys Pro Glu Asn Leu Ser Gly Gln Phe Ile Tyr  
 545 550 555 560  
 Asp Glu Thr Ile Phe Glu Leu Ser Phe Arg Glu Gly Ser Asp Ile Asn  
 565 570 575  
 Tyr Tyr Glu Ala Asp Leu Lys Val His Gly Leu Leu Lys Gly Val Pro  
 580 585 590  
 Leu Asp Leu Leu Trp Asp Cys Ile Ser Ala Lys Lys Arg Phe Leu Glu  
 595 600 605  
 Leu Pro Lys Ala Gly Gln Gln Ser Lys Gly Thr Arg Arg Gly Lys Val  
 610 615 620  
 Asn Ser Gly Lys Leu Pro Cys Ile Leu Val Leu Asp Leu Glu Lys Ile  
 625 630 635 640  
 Ala Pro Val Val Gln Ile Phe Asn Glu Ile Gly Phe Lys Val Leu Asp  
 645 650 655  
 Asp Leu Val Gln Lys Cys Pro Leu Trp Ser Leu Thr Gly Ile Ser Leu  
 660 665 670  
 Asp Gln Phe Glu Ala Leu Pro Val Asn Phe Ser Met Ser Glu Arg Leu  
 675 680 685  
 Ile Glu Ile Gln Lys Gln Ile Arg Gly Glu Ile Glu Phe Asp Phe Gln  
 690 695 700  
 Asp Val Pro Gln Gln Ile Gln Ala Thr Leu Arg Ser Tyr Gln Thr Glu  
 705 710 715 720  
 Gly Val His Trp Leu Glu Arg Leu Arg Lys Met His Leu Asn Gly Ile  
 725 730 735  
 Leu Ala Asp Asp Met Gly Leu Gly Lys Thr Leu Gln Ala Ile Ile Ala  
 740 745 750  
 Val Thr Gln Ser Lys Leu Glu Lys Gly Ser Gly Cys Ser Leu Ile Val  
 755 760 765  
 Cys Pro Thr Ser Leu Val Tyr Asn Trp Lys Glu Glu Phe Arg Lys Phe  
 770 775 780

Asn Pro Glu Phe Arg Thr Leu Val Ile Asp Gly Val Pro Ser Gln Arg 800  
 785 790 795  
 Arg Lys Gln Leu Thr Ala Leu Ala Asp Arg Asp Val Ala Ile Thr Ser 815  
 805 810  
 Tyr Asn Leu Leu Gln Lys Asp Val Glu Leu Tyr Lys Ser Phe Arg Phe 830  
 820 825  
 Asp Tyr Val Val Leu Asp Glu Ala His His Ile Lys Asn Arg Thr Thr 845  
 835 840  
 Arg Asn Ala Lys Ser Val Lys Met Ile Gln Ser Asp His Arg Leu Ile 860  
 850 855  
 Leu Thr Gly Thr Pro Ile Glu Asn Ser Leu Glu Glu Leu Trp Ser Leu 880  
 865 870  
 Phe Asp Phe Leu Met Pro Gly Leu Leu Ser Ser Tyr Asp Arg Phe Val 895  
 885 890  
 Gly Lys Tyr Ile Arg Thr Gly Asn Tyr Met Gly Asn Lys Ala Asp Asn 910  
 900 905  
 Met Val Ala Leu Lys Lys Lys Val Ser Pro Phe Ile Leu Arg Arg Met 925  
 915 920  
 Lys Glu Asp Val Leu Lys Asp Leu Pro Pro Val Ser Glu Ile Leu Tyr 940  
 930 935  
 His Cys His Leu Thr Glu Ser Gln Lys Glu Leu Tyr Gln Ser Tyr Ala 960  
 945 950 955  
 Ala Ser Ala Lys Gln Glu Leu Ser Arg Leu Val Lys Gln Glu Gly Phe 975  
 965 970  
 Glu Arg Ile His Ile His Val Leu Ala Thr Leu Thr Arg Leu Lys Gln 990  
 980 985  
 Ile Cys Cys His Pro Ala Ile Phe Ala Lys Asp Ala Pro Glu Pro Gly 1005  
 995 1000  
 Asp Ser Ala Lys Tyr Asp Met Leu Met Asp Leu Leu Ser Ser Leu Val 1020  
 1010 1015  
 Asp Ser Gly His Lys Thr Val Val Phe Ser Gln Tyr Thr Lys Met Leu 1040  
 1025 1030 1035  
 Gly Ile Ile Lys Lys Asp Leu Glu Ser Arg Gly Ile Pro Phe Val Tyr 1055  
 1045 1050  
 Leu Asp Gly Ser Thr Lys Asn Arg Leu Asp Leu Val Asn Gln Phe Asn 1070  
 1060 1065  
 Glu Asp Pro Ser Leu Leu Val Phe Leu Ile Ser Leu Lys Ala Gly Gly 1085  
 1075 1080  
 Thr Gly Leu Asn Leu Val Gly Ala Asp Thr Val Ile His Tyr Asp Met 1100  
 1090 1095  
 Trp Trp Asn Pro Ala Val Glu Asn Gln Ala Thr Asp Arg Val His Arg 1120  
 1105 1110 1115  
 Ile Gly Gln Ser Arg Ser Val Ser Ser Tyr Lys Leu Val Thr Leu Asn 1135  
 1125 1130  
 Thr Ile Glu Glu Lys Ile Leu Thr Leu Gln Asn Arg Lys Lys Ser Leu 1150  
 1140 1145  
 Val Lys Lys Val Ile Asn Ser Asp Asp Glu Val Val Ser Lys Leu Thr 1165  
 1155 1160  
 Trp Glu Glu Val Leu Glu Leu Leu Gln Ile 1175  
 1170

<210> 852

<211> 379

<212> PRT

<213> Chlamydia pneumoniae

<400> 852

Leu Gly Lys Lys Tyr Trp Asn Cys Cys Arg Tyr Asp Phe Met Ser Pro  
 1 5 10 15  
 His Arg Asn Leu Phe Lys Leu Lys Asn Phe Ser Asn Arg Leu Tyr Asn  
 20 25 30

Arg Ala Leu Gly Arg Phe Asp Lys Val Phe Asn Phe Phe Ser Gly Asn  
 35 40 45  
 Val Gly Ile Asp Leu Gly Thr Ala Asn Thr Leu Val Tyr Val Arg Gly  
 50 55 60  
 Arg Gly Ile Val Leu Ser Glu Pro Ser Val Val Ala Val Asp Ala Gln  
 65 70 75 80  
 Thr His Ala Val Leu Ala Val Gly His Lys Ala Lys Ala Met Leu Gly  
 85 90 95  
 Lys Thr Pro Arg Lys Ile Met Ala Val Arg Pro Met Lys Asp Gly Val  
 100 105 110  
 Ile Ala Asp Phe Glu Ile Ala Glu Gly Met Leu Lys Ala Leu Ile Lys  
 115 120 125  
 Arg Val Thr Pro Ser Arg Ser Val Phe Arg Pro Arg Ile Leu Ile Ala  
 130 135 140  
 Val Pro Ser Gly Ile Thr Gly Val Glu Lys Arg Ala Val Glu Asp Ser  
 145 150 155 160  
 Ala Leu His Ala Gly Ala Gln Glu Val Ile Leu Ile Glu Glu Pro Met  
 165 170 175  
 Ala Ala Ala Ile Gly Val Asp Leu Pro Val His Glu Pro Ala Ala Ser  
 180 185 190  
 Met Ile Ile Asp Ile Gly Gly Gly Thr Thr Glu Ile Ala Ile Ser  
 195 200 205  
 Leu Gly Gly Ile Val Glu Ser Arg Ser Leu Arg Ile Ala Gly Asp Glu  
 210 215 220  
 Phe Asp Glu Cys Ile Ile Asn Tyr Met Arg Arg Thr Tyr Asn Leu Met  
 225 230 235 240  
 Ile Gly Pro Arg Thr Ala Glu Glu Ile Lys Ile Thr Ile Gly Ser Ala  
 245 250 255  
 Tyr Pro Leu Gly Asp Gln Glu Leu Glu Met Glu Val Arg Gly Arg Asp  
 260 265 270  
 Gln Val Ala Gly Leu Pro Ile Thr Lys Arg Ile Asn Ser Val Glu Ile  
 275 280 285  
 Arg Glu Cys Leu Ala Glu Pro Ile Gln Gln Ile Ile Glu Cys Val Arg  
 290 295 300  
 Leu Thr Leu Glu Lys Cys Pro Pro Glu Leu Ser Ala Asp Leu Val Glu  
 305 310 315 320  
 Arg Gly Met Val Leu Ala Gly Gly Gly Ala Leu Ile Lys Gly Leu Asp  
 325 330 335  
 Lys Ala Leu Ser Lys Asn Thr Gly Leu Ser Val Ile Thr Ala Pro His  
 340 345 350  
 Pro Leu Leu Ala Val Cys Leu Gly Thr Gly Lys Ala Leu Glu His Leu  
 355 360 365  
 Asp Gln Phe Lys Lys Arg Lys Gly Asn Leu Val  
 370 375

<210> 853

<211> 606

<212> PRT

<213> Chlamydia pneumoniae

<400> 853

Arg Glu Phe Gly Ile Val Met Val Trp Ser Thr Asn Ile Lys His Glu  
 1 5 10 15  
 Gly Leu Lys Ser Trp Ile Asp Glu Val Ala Lys Leu Thr Thr Pro Lys  
 20 25 30  
 Asp Ile Arg Leu Cys Asp Gly Ser Asp Thr Glu Tyr Asp Glu Leu Cys  
 35 40 45  
 Thr Leu Met Glu Ser Thr Gly Thr Met Ile Arg Leu Asn Pro Glu Phe  
 50 55 60  
 His Pro Asn Cys Phe Leu Val Arg Ser Ser Ala Asp Asp Val Ala Arg  
 65 70 75 80

Val Glu Gln Phe Thr Phe Ile Cys Thr Ser Thr Glu Ala Glu Ala Gly  
 85 90 95  
 Pro Thr Asn Asn Trp Arg Asp Pro Gln Glu Met Arg Arg Glu Leu His  
 100 105 110  
 Gln Leu Phe Arg Gly Cys Met Gln Gly Arg Thr Leu Tyr Ile Val Pro  
 115 120 125  
 Phe Cys Met Gly Pro Leu Asp Ser Pro Phe Ser Ile Val Gly Val Glu  
 130 135 140  
 Leu Thr Asp Ser Pro Tyr Val Val Cys Ser Met Lys Ile Met Thr Arg  
 145 150 155 160  
 Met Gly Asp Asp Val Leu Arg Ser Leu Gly Thr Ser Gly Lys Phe Leu  
 165 170 175  
 Lys Cys Leu His Ser Val Gly Lys Pro Leu Ser Pro Gly Glu Ala Asp  
 180 185 190  
 Val Ser Trp Pro Cys Asn Pro Lys Ser Met Arg Ile Val His Phe Gln  
 195 200 205  
 Asp Asp Ser Ser Val Met Ser Phe Gly Ser Gly Tyr Gly Gly Asn-Ala  
 210 215 220  
 Leu Leu Gly Lys Lys Cys Val Ala Leu Arg Leu Ala Ser Tyr Met Ala  
 225 230 235 240  
 Lys Ser Gln Gly Trp Leu Ala Glu His Met Leu Ile Ile Gly Ile Thr  
 245 250 255  
 Asn Pro Glu Gly Lys Lys Lys Tyr Phe Ser Ala Ser Phe Pro Ser Ala  
 260 265 270  
 Cys Gly Lys Thr Asn Leu Ala Met Leu Met Pro Lys Leu Pro Gly Trp  
 275 280 285  
 Lys Ile Glu Cys Ile Gly Asp Asp Ile Ala Trp Ile Arg Pro Gly Arg  
 290 295 300  
 Asp Gly Arg Leu Tyr Ala Val Asn Pro Glu Tyr Gly Phe Phe Gly Val  
 305 310 315 320  
 Ala Pro Gly Thr Ser Glu Arg Thr Asn Pro Asn Ala Leu Ala Thr Cys  
 325 330 335  
 Arg Ser Asn Ser Ile Phe Thr Asn Val Ala Leu Thr Ala Asp Gly Asp  
 340 345 350  
 Val Trp Trp Glu Gly Leu Thr Glu Gln Pro Pro Glu Pro Leu Thr Asp  
 355 360 365  
 Trp Leu Gly Lys Pro Trp Lys Pro Gly Gly Ser Pro Ala Ala His Pro  
 370 375 380  
 Asn Ser Arg Phe Thr Ala Pro Leu Arg Gln Cys Pro Ser Leu Asp Pro  
 385 390 395 400  
 Glu Trp Asn Ser Pro Gln Gly Val Pro Leu Asp Ala Ile Ile Phe Gly  
 405 410 415  
 Gly Arg Arg Ser Glu Thr Ile Pro Leu Val Tyr Glu Ala Leu Ser Trp  
 420 425 430  
 Glu His Gly Val Thr Ile Gly Ala Gly Met Ser Ser Thr Thr Thr Ala  
 435 440 445  
 Ala Ile Val Gly Gln Leu Gly Lys Leu Arg His Asp Pro Phe Ala Met  
 450 455 460  
 Leu Pro Phe Cys Gly Tyr Asn Met Ala Tyr Tyr Phe Gln His Trp Leu  
 465 470 475 480  
 Ser Phe Ala Glu Asn Arg Ser Leu Lys Leu Pro Lys Ile Phe Gly Val  
 485 490 495  
 Asn Trp Phe Arg Lys Asn Asn Gln Gly Glu Phe Leu Trp Pro Gly Phe  
 500 505 510  
 Ser Glu Asn Leu Arg Val Leu Glu Trp Ile Phe Gln Arg Thr Asp Gly  
 515 520 525  
 Leu Glu Asp Ile Ala Glu Arg Thr Pro Ile Gly Tyr Leu Pro Asn Ile  
 530 535 540  
 Gln Lys Phe Asn Leu Asn Gly Leu Asn Leu Asp Leu Gln Thr Val Gln  
 545 550 555 560

Glu Leu Phe Ser Val Asp Ala Glu Gly Trp Leu Ala Glu Val Glu Asn  
 565 570 575  
 Ile Gly Glu Tyr Leu Lys Ile Phe Gly Ser Asp Cys Pro Gln Gln Ile  
 580 585 590  
 Thr Asp Glu Leu Leu Arg Ile Lys Ser Glu Leu Lys Glu Lys  
 595 600 605

<210> 854  
 <211> 780  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 854  
 Ile Lys Leu Arg Ile Ile Asp Tyr Tyr Tyr Leu Ile Asn Thr Val Thr  
 1 5 10 15  
 Leu Gln-Pro-Ser Tyr Ile Asn Phe Thr Pro Asn Val Thr Thr Ala Leu  
 20 25 30  
 Ser Gly Gly Lys Ile Asp Thr Ser Ala Ile Glu Leu Ser Cys Ser Ala  
 35 40 45  
 Leu Phe Phe Gln Glu Leu Gln Asp Lys Ala Gln Gly Leu Lys His Ala  
 50 55 60  
 Leu Gly Leu Val Gln Glu Leu Ser Ala Glu Ala Leu Arg Pro Ala Gln  
 65 70 75 80  
 Val Gln Thr Ser Ile Ser Tyr Leu Pro Thr Glu Glu Ser Ser Arg Pro  
 85 90 95  
 Gly Ile Ser Ala Gly Ile Ile Asp Arg Thr Met Pro Thr Phe Thr Asp  
 100 105 110  
 Asp Glu Val Lys Ala Ile Leu Gln Asn Pro Asn Phe Glu Thr Ser Lys  
 115 120 125  
 Ile Phe Val Glu Gly Leu Asp Lys Val Phe Lys Ser Tyr Leu Asp Ser  
 130 135 140  
 Val Thr Pro Pro Glu Gly Ile Asp Pro Ser Asn Pro Glu Ser Ala Ile  
 145 150 155 160  
 Ile Leu Asn Tyr Ile Thr Leu Leu Asn Asn Leu Lys Pro Lys Phe Ala  
 165 170 175  
 Ala Gly Ser Thr Pro Thr Asp Ala Asp Tyr Asn Ala Leu Tyr Ala Leu  
 180 185 190  
 Pro Gly Asp Phe Val Lys Glu Ile Glu Ala Leu Lys Ala Ala Asp Ala  
 195 200 205  
 Pro Pro Lys Ser Lys Val His Ala Phe Trp Gln Glu Ile Met Thr Ile  
 210 215 220  
 Tyr Asn Asn Met Gln Val Leu Ser Tyr Pro Val Thr Asp Tyr Leu Asn  
 225 230 235 240  
 Val Gln Ile Ala Asp Leu Ser Leu Asn Ile Thr Ala Ala Gln Glu Val  
 245 250 255  
 Gln Gln Tyr Leu Lys Asn Phe Tyr Ser Ile Leu Lys Asp Ile Leu Asn  
 260 265 270  
 Pro Gly Trp Thr Asp Pro Gln Ala Thr His Tyr Pro Ala Asp Ala Glu  
 275 280 285  
 Tyr Asn Ala Arg Asp Ala Gly Val Ile Gln Ser Leu Leu Asn Leu Ser  
 290 295 300  
 Gly Asn Tyr Arg Gln Leu Thr Glu Asn Met Leu Pro Asn Thr Asp Thr  
 305 310 315 320  
 Ser Leu Pro Gln Glu Ile Ile Ala Gln Ile Arg Ser Phe Gln Asn Gly  
 325 330 335  
 Val Asn Gly Thr Ile Ile Ala Ser Asn Thr Leu Leu Pro Thr Thr Met  
 340 345 350  
 Arg Leu Asp Thr Leu Leu Gly Val Ile Tyr Thr Tyr Gln Cys Cys Ala  
 355 360 365  
 Thr Ile Phe Gly Met Ser Tyr Gly Thr Ser Thr Pro Ala Lys Gln Asn  
 370 375 380



Tyr Ile Asp Ala Ile Asn Gln Glu Lys Ser Tyr Trp Gln Ala Arg Ala  
 385 390 395 400  
 Asn Gly Phe Asp Val Thr Ser Asp Gln Val Phe Asp Gln Phe Ala Thr  
 405 410 415  
 Asn Ile Gln Ser Gly Thr Ser Tyr Arg Gly Ile Asp Leu Phe Lys Asn  
 420 425 430  
 Asn Lys Val Asn Glu Ile Asn Pro Ile Phe Leu Ser Gln Ala Ala Ser  
 435 440 445  
 Phe Leu Arg Tyr Pro Tyr Asn Leu Met Ser Arg Ser Met Tyr Gln Thr  
 450 455 460  
 Ile Glu Asp Ala Ala Asn Arg Ser Ile Thr Ala Leu Asp Gly Leu Ile  
 465 470 475 480  
 Ser Gly Trp Ser Thr Gln Ile Ala Thr Phe Gln Thr Gln Lys Asn Ser  
 485 490 495  
 Leu Asp Pro Ser Leu Leu Lys Tyr Phe Asp Thr Met Lys Ala Asn Lys  
 500 505 510  
 Glu Ser Phe Val Thr Thr Ala Pro Leu Gln Met Val Tyr Ser Ser Leu  
 515 520 525  
 Met Leu Asp Lys Tyr Leu Pro Thr Gln Gln Asn Val Ile Ala Ser Leu  
 530 535 540  
 Gly Ile Gln Met Thr Tyr Ser Asn Lys Ala Ala Lys Tyr Leu Asn Glu  
 545 550 555 560  
 Leu Ile Lys Glu Ile Thr Thr Phe Gln Ser Ala Asp Ile Tyr Tyr Ser  
 565 570 575  
 Leu Ser Ile Tyr Leu Lys Gln Met Asn Leu Gln Ala Val Ala Asp Pro  
 580 585 590  
 Ile Gly Lys Ala Val Gly Val Leu Asn Asp Glu Lys Thr Arg Ala Met  
 595 600 605  
 Ala Asp Ile Thr Arg Cys Asn Lys Ile Lys Ala Ala Ile Asp Lys Met  
 610 615 620  
 Leu Val Glu Ile Lys Ala Asp Ala Glu Leu Ser Lys Ser Gln Ile Arg  
 625 630 635 640  
 Glu Leu Val Asp Thr Leu Thr Asn Phe Lys Ser Gln Ser Asp Asp Leu  
 645 650 655  
 Ile Arg Asn Leu Ser Cys Leu Leu Gly Phe Leu Ser Gly Leu Thr Leu  
 660 665 670  
 Lys Ala Val Asn Asp Pro Asn Ala Thr Tyr Glu Ala Phe Thr Ala Glu  
 675 680 685  
 Ile Phe Thr Glu Pro Phe Asn Asn Trp Lys Arg Gln Leu Ala Thr Phe  
 690 695 700  
 Glu Ser Phe Val Ile Gln Gly Gly Gln Asn Gly Ile Thr Pro Gly Gly  
 705 710 715 720  
 Gln Gln Gln Leu Leu Gln Ala Met Glu Ser Ser Gln Gln Asp Phe Ser  
 725 730 735  
 Thr Phe Asn Gln Asn Gln Gln Leu Ala Leu Gln Leu Glu Ser Ser Ala  
 740 745 750  
 Met Gln Gln Glu Trp Thr Leu Val Ser Ala Ala Leu Ala Leu Asn  
 755 760 765  
 Gln Met Val Ser Lys Ile Ala Arg Arg Ile Lys Ser  
 770 775 780

<210> 855  
 <211> 391  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 855  
 Asn Ile Met His Pro Lys Ile Glu Lys Arg Asn Ser Leu Pro Leu Thr  
 1 5 10 15  
 Ala Val Ala Pro Val Phe Glu Glu Ser Tyr His Pro Ser Val Ala Thr  
 20 25 30

Thr Val Asp Tyr Val Asp Ala Thr Thr Leu Ser Arg His Leu Thr Val  
 35 40 45  
 Leu Lys Asp Val Ile Lys Glu Ala Arg Asn Leu Asp Leu Gly Lys Ala  
 50 55 60  
 Phe Leu Thr Ser Met Lys Gln Gly Phe Ile Asn Thr Gly Thr Glu Leu  
 65 70 75 80  
 Ala Ile Ile Gln Ala Ser Leu Ala Asp Gln Ser Ser Arg Glu Ser Arg  
 85 90 95  
 Lys Lys Glu Glu Lys Ile Phe His Gln His Leu Gly Lys Ala Ala Pro  
 100 105 110  
 Gln Ala Ala Thr Ala Thr Ser Gly Val Gln Pro Thr Ala Asp Pro Val  
 115 120 125  
 Ala Asp Lys Met Pro Leu Gln Ser Ala Phe Ala Tyr Val Leu Leu Asp  
 130 135 140  
 Lys Tyr Ile Pro Ala Gln Glu Glu Ala Leu Tyr Ala Leu Gly Arg Glu  
 145 150 155 160  
 Leu Asn Leu Ser Gly Tyr Ala Gln Asn Leu Phe Ser Pro Leu Leu Asp  
 165 170 175  
 Met Ile Lys Ser Phe Asn Ser Ala Pro Ile Asn Tyr Asn Leu Gly Ser  
 180 185 190  
 Tyr Ile Ser Gln Thr Ser Gly Thr Ala Asn Phe Ala Tyr Gly Tyr Glu  
 195 200 205  
 Met Ile Leu Ser Arg Tyr Asn Asn Glu Val Ser Gln Cys Arg Leu Asp  
 210 215 220  
 Ile Ala Ser Thr Val Lys Ala Lys Ala Ala Leu Ala Asn Met Ser Ala  
 225 230 235 240  
 Ser Val Lys Ala Asn Val Ser Leu Thr Asp Ala Gln Lys Lys Gln Ile  
 245 250 255  
 Glu Asp Ile Ile Ala Ser Tyr Thr Lys Ser Leu Asp Val Ile His Thr  
 260 265 270  
 Gln Leu Thr Asp Val Met Thr Asn Leu Ala Ser Ile Thr Phe Val Pro  
 275 280 285  
 Gly Leu Asn Lys Tyr Asp Pro Ser Tyr Arg Ile Val Gly Gly Asp Leu  
 290 295 300  
 Ser Ile Ile Ala Leu Gln Asn Asp Glu Lys Val Leu Val Asp Gly Lys  
 305 310 315 320  
 Val Asp Ile Thr Thr Ala Val Asn Glu Gly Gly Leu Leu Asn Phe Phe  
 325 330 335  
 Thr Thr Val Leu Thr Asp Val Gln Asn Tyr Gly Asp Leu Ala Gln Thr  
 340 345 350  
 Gln Gln Leu Met Leu Asp Leu Glu Leu Lys Ala Met Gln Gln Gln Trp  
 355 360 365  
 Ser Leu Val Ser Ala Ser Leu Lys Leu Leu Asn Gly Met Tyr Thr Thr  
 370 375 380  
 Val Ile Ser Gly Phe Lys Asn  
 385 390

<210> 856  
 <211> 348  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 856  
 Gly Pro Phe Asp Met Asn Ser Lys Met Leu Lys His Leu Arg Leu Ala  
 1 5 10 15  
 Thr Leu Ser Phe Ser Met Phe Phe Gly Ile Val Ser Ser Pro Ala Val  
 20 25 30  
 Tyr Ala Leu Gly Ala Gly Asn Pro Ala Ala Pro Val Leu Pro Gly Val  
 35 40 45  
 Asn Pro Glu Gln Thr Gly Trp Cys Ala Phe Gln Leu Cys Asn Ser Tyr  
 50 55 60

Asp Leu Phe Ala Ala Leu Ala Gly Ser Leu Lys Phe Gly Phe Tyr Gly  
 65 70 75 80  
 Asp Tyr Val Phe Ser Glu Ser Ala His Ile Thr Asn Val Pro Val Ile  
 85 90 95  
 Thr Ser Val Thr Thr Ser Gly Thr Gly Thr Thr Pro Thr Ile Thr Ser  
 100 105 110  
 Thr Thr Lys Asn Val Asp Phe Asp Leu Asn Asn Ser Ser Ile Ser Ser  
 115 120 125  
 Ser Cys Val Phe Ala Thr Ile Ala Leu Gln Glu Thr Ser Pro Ala Ala  
 130 135 140  
 Ile Pro Leu Leu Asp Ile Ala Phe Thr Ala Arg Val Gly Gly Leu Lys  
 145 150 155 160  
 Gln Tyr Tyr Arg Leu Pro Leu Asn Ala Tyr Arg Asp Phe Thr Ser Asn  
 165 170 175  
 Pro Leu Asn Ala Glu Ser Glu Val Thr Asp Gly Leu Ile Glu Val Gln  
 180 185 190  
 Ser Asp Tyr Gly Ile Val Trp Gly Leu Ser Leu Gln Lys Val Leu Trp  
 195 200 205  
 Lys Asp Gly Val Ser Phe Val Gly Val Ser Ala Asp Tyr Arg His Gly  
 210 215 220  
 Ser Ser Pro Ile Asn Tyr Ile Ile Val Tyr Asn Lys Ala Asn Pro Glu  
 225 230 235 240  
 Ile Tyr Phe Asp Ala Thr Asp Gly Asn Leu Ser Tyr Lys Glu Trp Ser  
 245 250 255  
 Ala Ser Ile Gly Ile Ser Thr Tyr Leu Asn Asp Tyr Val Leu Pro Tyr  
 260 265 270  
 Ala Ser Val Ser Ile Gly Asn Thr Ser Arg Lys Ala Pro Ser Asp Ser  
 275 280 285  
 Phe Thr Glu Leu Glu Lys Gln Phe Thr Asn Phe Lys Phe Lys Ile Arg  
 290 295 300  
 Lys Ile Thr Asn Phe Asp Arg Val Asn Phe Cys Phe Gly Thr Thr Cys  
 305 310 315 320  
 Cys Ile Ser Asn Asn Phe Tyr Tyr Ser Val Glu Gly Arg Trp Gly Tyr  
 325 330 335  
 Gln Arg Ala Ile Asn Ile Thr Ser Gly Leu Gln Phe  
 340 345

<210> 857  
 <211> 336  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 857  
 Gly Leu Met Lys Gln His Ile Gly Tyr Leu Gly Met Gly Ile Trp Gly  
 1 5 10 15  
 Phe Cys Leu Ala Ser Leu Leu Ala Asn Lys Gly Tyr Pro Val Ala  
 20 25 30  
 Trp Ser Arg Asn Pro Asp Leu Ile Lys Gln Leu Gln Glu Glu Arg Arg  
 35 40 45  
 His Pro Leu Ala Pro Asn Val Ile Ser Pro Asn Leu Ser Phe Thr  
 50 55 60  
 Thr Asp Met Lys Glu Ala Ile His Asn Ala Phe Met Ile Val Glu Gly  
 65 70 75 80  
 Val Thr Ser Ala Gly Ile Arg Pro Val Ala Glu Gln Leu Lys Gln Ile  
 85 90 95  
 Thr Asp Leu Ser Val Pro Phe Val Ile Thr Ser Lys Gly Ile Glu Gln  
 100 105 110  
 Asn Thr Gly Leu Leu Leu Ser Glu Ile Met Leu Glu Val Leu Gly Asp  
 115 120 125  
 Ser Val Thr Pro Tyr Leu Gly Tyr Leu Ser Gly Pro Ser Ile Ala Lys  
 130 135 140

Glu Val Leu Asn Gly Ser Pro Cys Ser Val Val Val Ser Ala Tyr Asp  
 145 150 155 160  
 Ser Gln Thr Leu Lys Gln Ile His Glu Ala Phe Ser Leu Pro Thr Phe  
 165 170 175  
 Arg Val Tyr Pro Asn Thr Asp Ile Lys Gly Ala Ala Leu Gly Gly Ala  
 180 185 190  
 Leu Lys Asn Val Ile Ala Ile Ala Cys Gly Ile Ala Glu Gly Leu Ser  
 195 200 205  
 Phe Gly Asn Asn Ala Lys Ala Gly Leu Val Thr Arg Gly Leu His Glu  
 210 215 220  
 Met Arg Lys Leu Ala Ala Ile Met Asp Cys Lys Pro Glu Thr Leu Asn  
 225 230 235 240  
 Gly Leu Ala Gly Leu Gly Asp Leu Cys Val Thr Cys Phe Ser Glu Ser  
 245 250 255  
 Ser Arg Asn Leu Arg Phe Gly His Leu Leu Ala Gln Gly Leu Thr Phe  
 260 265 270  
 Glu Gln Ala Lys Ala Lys Ile Gly Met Val Val Glu Gly Ala Tyr Thr  
 275 280 285  
 Ala Leu Ser Ala Tyr Gln Val Ala Lys His His Lys Ile Asp Met Pro  
 290 295 300  
 Ile Thr Thr Gly Ile Tyr Arg Val Leu Tyr Glu Asn Leu Asp Leu Lys  
 305 310 315 320  
 Glu Gly Ile Ala Leu Leu Gln Arg Asn Thr Lys Glu Glu Phe Leu  
 325 330 335

<210> 858

<211> 472

<212> PRT

<213> Chlamydia pneumoniae

<400> 858

Gly Ser Arg Asp Arg Asn Val Arg Leu Thr Val Met Thr Glu Ser Val  
 1 5 10 15  
 Tyr Ser Pro Ser Ala Met His Val Asn Ser Leu Ala Asp Lys Leu Lys  
 20 25 30  
 Ala Ile Asn Gln Glu His Ile Leu Asp Ile Trp Pro Ser Leu Ser Pro  
 35 40 45  
 Lys Gln Gln Gln Arg Leu Phe Gln Gln Leu Thr Ser Val Asp Ile Asp  
 50 55 60  
 Phe Phe Arg Lys Gln Gln Gln Leu Leu Ser Ser Pro Thr Ala Ile Leu  
 65 70 75 80  
 Lys Asp Phe His Pro Ile Thr Ser Phe Ala Ser Ser Gly Glu Asp Pro  
 85 90 95  
 Glu Arg Ala His Ala Gly Thr Thr Leu Leu Lys Glu Lys Lys Val Ala  
 100 105 110  
 Cys Val Val Leu Ala Gly Gly Gln Gly Ser Arg Leu Lys Cys Asp Gly  
 115 120 125  
 Pro Lys Gly Leu Phe Pro Val Ser Pro Ile Lys Lys Lys Pro Leu Phe  
 130 135 140  
 Gln Leu Val Ala Glu Lys Val Arg Ala Ala Ser Lys Leu Ala Gly Gln  
 145 150 155 160  
 Pro Leu Pro Leu Ala Phe Met Thr Ser Pro Leu Asn Thr Arg Gln Thr  
 165 170 175  
 Arg Ser Phe Phe Glu Ser Asn Asp Tyr Phe His Leu Asp Pro Asn Gln  
 180 185 190  
 Val Asp Phe Phe Cys Gln Pro Leu Trp Pro Leu Leu Thr Leu Ser Gly  
 195 200 205  
 Asp Leu Phe Leu Glu Asp Met Asp Thr Leu Ala Leu Gly Pro Asn Gly  
 210 215 220  
 Asn Gly Cys Ile Ala Thr Leu Leu Tyr Thr Ser Gly Val Trp Glu Lys  
 225 230 235 240

Trp Lys Asn Ala Gly Ile Glu Met Val Ser Val Ile Pro Ile Asp Asn  
 245 250 255  
 Pro Leu Ala Leu Pro Phe Asp Val Glu Leu Cys Gly Phe His Ala Met  
 260 265 270  
 Ser Asn Asn Glu Val Thr Ile Lys Ala Ala Leu Arg Gln Thr Ala Ile  
 275 280 285  
 Glu Asp Val Gly Ile Leu Val Lys Ser His Asp Ser Gly Lys Thr Ser  
 290 295 300  
 Val Ile Glu Tyr Ser Glu Ile Pro Gln Asn Glu Arg Phe Ala Leu Asn  
 305 310 315 320  
 Glu Asp Gly Lys Leu Lys Tyr Cys Leu Ala Asn Ile Gly Leu Tyr Cys  
 325 330 335  
 Leu Ser Met Asp Phe Ile Arg His Ala Ala Tyr Gln Gln Leu Pro Leu  
 340 345 350  
 Tyr Lys Val His Lys His Ala Lys Gln Leu Gly His Thr Ser Leu Asn  
 355 360 365  
 Glu Lys Asn Ala Trp Lys Phe Glu Glu Phe Ile Phe Asp Leu Phe Cys  
 370 375 380  
 Tyr Ser Asp His Cys Gln Thr Leu Val Tyr Pro Arg Gln Glu Cys Phe  
 385 390 395 400  
 Ala Pro Leu Lys Asn Leu Glu Gly Asn His Ser Pro Asp Thr Val Arg  
 405 410 415  
 Gln Ala Leu Ser Asp Arg Glu Arg Gln Leu Phe His Lys Val Thr Gly  
 420 425 430  
 Lys Lys Leu Ser Pro Asn Thr Thr Phe Glu Leu Glu Ala Asp Phe Tyr  
 435 440 445  
 Tyr Pro Ser Thr Ser Thr Ser Leu His Trp Glu Asn Lys Ala Phe Phe  
 450 455 460  
 Glu Glu Pro Phe Phe Glu Ala Ser  
 465 470

<210> 859  
 <211> 139  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 859  
 Leu Leu Leu Leu Arg Gln Tyr Ile Lys Thr Ala Arg Gly Ile Ser Arg  
 1 5 10 15  
 Leu Met Arg Asp Arg Leu Gly Ser Leu Ser Leu Ile Leu Lys Val Lys  
 20 25 30  
 Ile His Lys Tyr Leu Asp Thr Leu His Asn Gln Lys Arg Leu Ala Leu  
 35 40 45  
 Thr Val Ser Arg Asn Ile Gln Ala Thr Asn Lys Arg Ile Ala Asp Leu  
 50 55 60  
 His Leu Glu Arg Tyr Glu His Phe Ile Ser Arg Asp Asn Ile Lys His  
 65 70 75 80  
 Tyr Asp Ile Leu Leu Glu Tyr Leu Lys Thr Leu Gln Ser Ser Leu Tyr  
 85 90 95  
 Lys Gln Gln Ser Glu Ser Leu Arg Phe Leu Glu Ile His His Gln Gln  
 100 105 110  
 Leu Gln Glu Leu Ile Asn Arg Arg Lys Ile Ile Glu Lys Ile Lys Asn  
 115 120 125  
 Asn Lys Tyr Ser Lys Asp Gln Glu Ile Gly Thr  
 130 135

<210> 860  
 <211> 453  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 860  
 Arg Asn Ser Glu Thr Arg Asn Gln Arg Arg Thr Arg Pro Ser Thr Phe  
 1 5 10 15  
 Cys Phe Asp Ser Met Asn His Leu Asn Lys Glu Lys Leu His Ile His  
 20 25 30  
 Asn Trp Gln Pro Tyr Arg Ala Cys Gly Leu Leu Ser Lys Val Ser Gly  
 35 40 45  
 Asn Leu Ile Glu Val Asp Gly Leu Ser Ala Cys Leu Gly Glu Leu Cys  
 50 55 60  
 Lys Ile Ser Ser Thr Lys Asp Pro Asn Leu Leu Ala Glu Val Ile Gly  
 65 70 75 80  
 Phe His Asn His Thr Leu Leu Met Ser Leu Ser Pro Leu His Ser  
 85 90 95  
 Val Ala Leu Gly Thr Glu Val Leu Pro Leu Arg Arg Pro Pro Ser Leu  
 100 105 110  
 His Leu Ser Asp His Leu Leu Gly Arg Val Leu Asp Ala Phe Gly Asn  
 115 120 125  
 Pro Ile Asp Lys Lys Glu Asp Leu Pro Lys Thr His Arg Lys Pro Leu  
 130 135 140  
 Leu Ser Leu Pro Pro Ser Pro Met Met Arg Gln Pro Ile Asp Gln Ile  
 145 150 155 160  
 Phe Pro Thr Gly Ile Lys Ala Ile Asp Ala Phe Leu Thr Leu Gly Lys  
 165 170 175  
 Gly Gln Arg Ile Gly Val Phe Ser Glu Pro Gly Ser Gly Lys Ser Ser  
 180 185 190  
 Leu Leu Ser Ala Ile Ala Leu Gly Ser Lys Ser Thr Ile Asn Val Ile  
 195 200 205  
 Ala Leu Ile Gly Glu Arg Gly Arg Glu Val Arg Glu Tyr Ile Glu Lys  
 210 215 220  
 His Ser Asn Ala Leu Lys Gln Gln Arg Thr Ile Ile Ile Ala Ala Pro  
 225 230 235 240  
 Ala His Glu Thr Ala Pro Thr Lys Val Ile Ala Gly Arg Ala Ala Met  
 245 250 255  
 Thr Ile Ala Glu Tyr Phe Arg Glu Gln Gly His Glu Val Leu Phe Ile  
 260 265 270  
 Met Asp Ser Leu Ser Arg Trp Ile Ala Ala Leu Gln Glu Val Ala Leu  
 275 280 285  
 Ala Arg Gly Glu Thr Leu Ser Ala His Gln Tyr Ala Ala Ser Val Phe  
 290 295 300  
 His His Val Ser Glu Phe Thr Glu Arg Ala Gly Asn Asn Asp Lys Gly  
 305 310 315 320  
 Ser Ile Thr Ala Leu Tyr Ala Ile Leu Tyr Tyr Pro Lys His Pro Asp  
 325 330 335  
 Ile Phe Thr Asp Tyr Leu Lys Ser Leu Leu Asp Gly His Phe Phe Leu  
 340 345 350  
 Thr Ser Gln Gly Lys Ala Leu Ala Ser Pro Pro Ile Asp Ile Leu Ser  
 355 360 365  
 Ser Leu Ser Arg Ser Ala Gln Ala Leu Ala Leu Pro His His Tyr Ala  
 370 375 380  
 Ala Ala Glu Arg Leu Arg Ser Leu Leu Lys Val Tyr Asn Glu Ala Leu  
 385 390 395 400  
 Asp Ile Ile His Leu Gly Ala Tyr Thr Pro Gly Gln Asp Glu Glu Leu  
 405 410 415  
 Asp Lys Ala Val Lys Leu Leu Pro Ser Ile Lys Ala Phe Leu Ala Gln  
 420 425 430  
 Pro Leu Ser Ser Tyr Cys Tyr Leu Asp Asn Thr Leu Lys Gln Leu Glu  
 435 440 445  
 Ala Leu Ala Asp Ser  
 450

<210> 861  
 <211> 181  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 861  
 Val Phe Leu Val Thr Thr Pro Gln Ser Pro Gly Ser Leu Ser Gln Ser  
 1 5 10 15  
 His Leu Pro His Pro His Asp Pro Trp Asp Thr Glu Pro Thr Ser Leu  
 20 25 30  
 Pro Glu Asp Pro Asn Asp Lys Ala Ser Gln Glu Leu His Ser Leu Val  
 35 40 45  
 His Leu Phe Arg Lys Leu Ser Ile His Leu Leu Ser Glu Val Glu Lys  
 50 55 60  
 Thr Val Gln Gln Leu Lys Pro Asp Leu Leu Glu Leu Ala Leu Leu Ile  
 65 70 75 80  
 Cys Glu Lys Phe Leu Tyr Lys Lys Leu Glu Asn Pro Gln Glu Leu Ala  
 85 90 95  
 Leu Leu Leu Ser Thr Ala Leu Gln Arg His Thr Thr Leu Arg Ser Leu  
 100 105 110  
 Thr Pro Ile Lys Val Phe Leu His Pro Glu Asp Leu Lys Thr Leu Thr  
 115 120 125  
 Asp Trp Ile Ser Thr His Glu Leu Pro Met Ile Lys His Ala Glu Phe  
 130 135 140  
 Phe Pro Asp Thr Ser Cys Arg Arg Ser Gly Phe Lys Ile Glu Thr Pro  
 145 150 155 160  
 Asn Gly Ile Leu Arg Gln Glu Ile Ser Glu Glu Leu Asp His Leu Leu  
 165 170 175  
 Ser Val Leu Thr Ala  
 180

<210> 862  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 862  
 Arg Thr Leu Val Phe Phe Gln Asn Leu Ala Lys Lys Leu Thr Ala Leu  
 1 5 10 15  
 Gly Ile Ser Pro Leu Gly Cys Leu Leu Ile Gly Gly Val Val Ser Cys  
 20 25 30  
 Ala Ile Leu Phe Gly Arg Ser Ser Asn Pro Ser Leu Ala Pro Thr Gln  
 35 40 45  
 Val Lys Thr Glu Lys Thr Ser Gly Asn Trp Leu Lys Leu Thr Gln Met  
 50 55 60  
 Gly Asn Pro Lys Leu Ile Glu Ser Leu Thr Lys Lys Glu Gln Leu Glu  
 65 70 75 80  
 Lys Asp Leu Thr Ser Phe His Pro Ile Ala Ser Ala Lys Val Ala Ile  
 85 90 95  
 Ala Leu Ser Thr Glu Asp Asp Val Met Ser Pro Leu His Leu Ser Val  
 100 105 110  
 Ile Leu Thr Leu Arg Lys Glu Glu Ser Leu Thr Pro Ser Leu Leu Phe  
 115 120 125  
 Ser Ile Thr Asp Tyr Leu Cys Ser Ser Leu Pro Gly Leu Lys Arg Glu  
 130 135 140  
 His Ile Ser Leu Ser Asp Asn Leu Gly Asn Leu Tyr Ile Pro Glu Ser  
 145 150 155 160  
 Ile Thr Val Asn Ser Leu Phe Ile His Thr Leu Glu Asn Tyr Leu Gly  
 165 170 175  
 Lys Ile Phe Pro Lys Glu His Phe Ala Leu Ala Tyr His Ala Lys Ala  
 180 185 190

Glu Lys Pro Thr Leu Gln Leu Thr Leu Asn Glu Asn Tyr Ile Ala His  
 195 200 205  
 Leu Thr Lys Glu Glu Ser Glu Lys Ile Val Ala His Thr Lys His Tyr  
 210 215 220  
 Leu Tyr Gln Asn Tyr Asp Asp Ser Tyr Asp Ile Val Ile Glu Thr Leu  
 225 230 235 240  
 Pro Phe Ala Arg Leu Gln Asn Lys Lys Ser Phe Pro Ala Lys Val Leu  
 245 250 255  
 Ile Gly Ser Met Ile Leu Val Ile Ser Leu Met Ile Val Ala Leu Ala  
 260 265 270  
 Ser Phe Tyr Leu Ala Arg His Ala Tyr Glu Arg Val Ser Pro Glu Pro  
 275 280 285  
 Arg Lys Ile Lys Arg Gly Ile Asn Ile Ser Lys Leu Leu Glu Ile Ile  
 290 295 300  
 Gln Lys Glu Ser Pro Glu Lys Ile Ala Leu Ile Leu Ser Tyr Leu Asp  
 305 310 315 320  
 Pro Lys Lys Ala Glu Ala Leu Leu Asn Arg Leu Pro Glu Asp Leu Lys  
 325 330 335  
 His Gln Val Leu Lys Tyr Lys Leu  
 340

<210> 863  
 <211> 276  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 863  
 Ala Ser Tyr Pro Phe Thr Trp Lys Phe Leu Met Thr Leu Pro Leu Glu  
 1 5 10 15  
 Pro Met Ile Phe Trp Ser Ser Leu Ser Ala Lys Val Met Lys Lys Phe  
 20 25 30  
 Leu Thr Pro His Cys Ala Gly Thr Phe Ser Glu Glu Asp Ala Glu Ala  
 35 40 45  
 Lys Glu Ala His Leu Val Thr Gly Lys Gln Gly His Arg Leu Met Gly  
 50 55 60  
 Asn Cys Val Thr Phe Tyr Trp Leu Val Asp Lys Lys Asn Gly Val Ile  
 65 70 75 80  
 Leu Asp Ala Lys Phe Gln Tyr Phe Gly His Pro Tyr Leu Ile Pro Leu  
 85 90 95  
 Ala Glu Ala Val Cys Asn Leu Val Cys Gly Lys Ser Tyr Ser Glu Ala  
 100 105 110  
 Tyr Lys Met Thr Leu Asp Asp Ile Asp Lys Ser Leu Arg Val His Ala  
 115 120 125  
 His Gln Pro Ala Leu Pro Glu Asp Ser Ile Ser Leu Tyr His Phe Val  
 130 135 140  
 Ile Asp Ala Leu Asp Thr Ala Val Glu Gln Cys Leu Glu Ile Pro Leu  
 145 150 155 160  
 Glu Asp Gly Ser Leu Pro Leu Gln Asn Ser Pro Met Asn Leu Asp Phe  
 165 170 175  
 Glu Asp Ala Asn Pro Tyr Ser Gln Ser Asp Trp Glu Ala Leu Thr His  
 180 185 190  
 Glu Gln Lys Leu Tyr Ala Leu Arg Ala Thr Ile Ala Glu Lys Ile Gly  
 195 200 205  
 Pro Tyr Ile Ala Met Asp Gly Gly Glu Val Thr Val Glu Ser Leu Glu  
 210 215 220  
 Asn Phe Ile Val Thr Ile Ala Tyr Ser Gly Asn Cys Ser Gly Cys Pro  
 225 230 235 240  
 Ser Ser Leu Gly Ser Thr Leu Asn Ser Ile Gly Gln Leu Leu Arg Ala  
 245 250 255  
 Tyr Ile Tyr Pro Glu Leu Gln Val Lys Val Asp Glu Ser Ser Leu Asn  
 260 265 270



Leu Ser His Pro  
275

<210> 864

<211> 401

<212> PRT

<213> Chlamydia pneumoniae

<400> 864

Gly	Arg	Gly	Thr	Ile	Phe	Arg	Ile	Thr	Asp	Gly	Lys	Thr	Ser	Cys	Ile
1				5				10						15	
Ser	Met	Glu	Lys	Pro	Gln	Asn	Arg	Lys	Ala	Pro	Arg	Ile	Phe	Trp	Leu
			20					25					30		
Asn	Asn	Gln	Val	Ala	Ile	Pro	Pro	Ser	Glu	Arg	Val	Lys	Glu	Ser	Tyr
		35					40					45			
Ala	Leu	His	Ser	Asp	Ile	Phe	Ser	Leu	Pro	Pro	Gly	Ser	Ala	Leu	Lys
	50					55					60				
Leu	Ala	Glu	Lys	Thr	Glu	Glu	Ser	Ile	Arg	Gln	Leu	Val	Gly	Leu	Lys
65					70					75					80
Asp	Ser	His	Ile	Phe	Arg	Phe	Val	Pro	His	Phe	Pro	His	Val	Val	His
			85					90						95	
Ile	Val	Leu	Ala	Ala	Leu	Val	Glu	Asn	Leu	Ser	Met	Phe	Gln	Gly	Arg
			100					105					110		
Asn	His	Ile	Ile	Leu	Pro	Ala	His	Asp	Gln	Gln	Leu	Leu	Ile	Asn	Ser
		115					120					125			
Leu	Cys	Arg	His	Gln	Gly	Leu	Gly	Thr	Thr	Tyr	Asp	Trp	Val	Thr	Val
	130				135						140				
Asn	His	Glu	Gly	Arg	Ile	Val	Glu	Glu	Gln	Leu	Ile	Glu	Thr	Leu	Ser
145					150					155					160
Pro	Arg	Ser	Leu	Leu	Phe	Ser	Leu	Ser	Ala	Ala	His	Gly	Leu	Thr	Gly
			165					170					175		
Val	Ile	Gln	Pro	Leu	Asp	Pro	Leu	Leu	Ser	Leu	Cys	Lys	Asp	Arg	Arg
			180					185					190		
Ile	Leu	Leu	His	Leu	Asp	Ile	Ser	Asp	Ile	Leu	Gly	Arg	Ala	Pro	Leu
	195						200					205			
Thr	Pro	Glu	Ile	Leu	Asn	Ala	Asp	Ile	Ile	Thr	Phe	Ser	Ser	Ala	Ala
	210				215						220				
Leu	Gly	Gly	Met	Gly	Ser	Ile	Gly	Gly	Ile	Phe	Ile	Arg	Lys	Ser	Leu
225				230						235					240
Glu	Arg	Val	Phe	Ser	Ser	Trp	Phe	Pro	Pro	His	Thr	Ser	Ala	Ser	Leu
			245					250					255		
Cys	Phe	Ser	Ala	Val	Ala	Ala	Met	Gln	Thr	Ala	Cys	Glu	Glu	Arg	Ile
		260						265					270		
Ser	Ala	Leu	Pro	Leu	Phe	Thr	Phe	His	Thr	Ser	Asn	Leu	Cys	Lys	Lys
	275						280					285			
Leu	Ile	Gln	Glu	Leu	Gln	Ser	Val	Leu	Pro	Ser	Ile	Gln	Leu	Ala	Phe
	290				295						300				
Ser	Glu	Val	Gln	Asn	Arg	Leu	Pro	Asn	Ile	Val	Val	Ala	Ala	Ile	Pro
305				310						315					320
Asp	Ile	Pro	Ala	Glu	Ser	Leu	Ala	Phe	His	Leu	His	Gln	Gln	Gly	Ile
			325					330					335		
Tyr	Pro	Ser	Leu	Gly	Tyr	Glu	Arg	Phe	Gln	Pro	Leu	Ala	Gln	Val	Leu
		340					345						350		
Gln	Asn	Cys	Gly	Ile	Ser	Pro	Phe	Leu	Cys	His	Ser	Ala	Leu	His	Phe
	355						360					365			
Ser	Leu	Thr	Glu	Arg	Ser	Lys	Asp	Leu	Glu	Phe	Ser	Lys	Leu	Ala	Arg
	370					375					380				
Ala	Met	His	Asp	Ala	Ile	Lys	His	Leu	Thr	Pro	Leu	Leu	Gly	Ser	Ser
385				390						395					400
Ser															

<210> 865  
 <211> 230  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 865  
 Glu His Met Ala Leu Leu Ile Leu Leu Arg His Gly Gln Ser Val Trp  
 1 5 10 15  
 Asn Glu Lys Asn Leu Phe Ser Gly Trp Val Asp Ile Pro Leu Ser Gln  
 20 25 30  
 Gln Gly Ile Glu Glu Ala Phe Ser Ala Gly Arg Ala Ile Gln Asn Leu  
 35 40 45  
 Pro Ile Asp Cys Ile Phe Thr Ser Thr Leu Val Arg Ser Leu Met Thr  
 50 55 60  
 Ala Leu Leu Ala Met Thr Asn His His Ser Lys Lys Ile Pro Tyr Ile  
 65 70 75 80  
 Val His Glu Asp Pro Lys Ala Lys Glu Met Ser Arg Ile Tyr Ser Ala  
 85 90 95  
 Glu Glu Glu Asn Asn Met Ile Pro Leu Tyr Gln Ser Ser Ala Leu Asn  
 100 105 110  
 Glu Arg Met Tyr Gly Glu Leu Gln Gly Lys Asn Lys Lys Gln Thr Ala  
 115 120 125  
 Glu Gln Phe Gly Glu Glu Arg Val Lys Leu Trp Arg Arg Ser Tyr Lys  
 130 135 140  
 Thr Ala Pro Pro Gln Gly Glu Ser Leu Tyr Asp Thr Lys Gln Arg Thr  
 145 150 155 160  
 Leu Pro Tyr Phe Glu Lys Asn Ile Leu Pro Gln Leu Gln Asn Gly Lys  
 165 170 175  
 Asn Val Phe Val Ser Ala His Gly Asn Ser Leu Arg Ser Leu Ile Met  
 180 185 190  
 Asp Leu Glu Lys Leu Ser Glu Glu Glu Val Leu Ser Leu Glu Leu Pro  
 195 200 205  
 Thr Gly Lys Pro Val Val Tyr Gln Trp Lys Asn His Lys Ile Glu Lys  
 210 215 220  
 His Pro Glu Phe Phe Gly  
 225 230

<210> 866  
 <211> 239  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 866  
 Tyr Gly Val Asn Val Thr Lys Val Arg Leu Asn Lys Phe Leu Ala Ser  
 1 5 10 15  
 Ala Gly Val Ala Ser Arg Arg Lys Cys Asp Glu Ile Ile Phe Ser Gly  
 20 25 30  
 Ser Val Thr Val Asn Gly Arg Val Ala Glu Gly Pro Phe Val Leu Val  
 35 40 45  
 Asp Pro Glu Asp Lys Val Gln Val Gly Gly Thr Ser Val His Leu Thr  
 50 55 60  
 Lys Lys Val Tyr Phe Met Val His Lys Ala Ile Gly Tyr Leu Cys Ser  
 65 70 75 80  
 Ser Glu Lys Lys Phe Pro Gly Thr Lys Leu Val Ile Asp Leu Phe Ala  
 85 90 95  
 His Leu Pro Tyr Arg Val Phe Thr Val Gly Arg Leu Asp Lys Glu Thr  
 100 105 110  
 Ser Gly Leu Ile Leu Val Thr Asn Asp Gly Glu Phe Ala Asn Lys Ile  
 115 120 125  
 Ile His Pro Ser Ser Gly Ile Thr Lys Glu Tyr Leu Leu Lys Val Ser  
 130 135 140

Arg Asp Val Ser Ala Lys Asp Leu Gly Lys Leu Met Glu Gly Thr Phe  
 145 150 155 160  
 Ile Asp Gly Lys His Val Arg Pro Val Ser Val Thr Lys Ile Arg Arg  
 165 170 175  
 Gly Thr Val Lys Ile Val Val Ser Glu Gly Lys Lys His Glu Ile Arg  
 180 185 190  
 Leu Phe Ala Asp Ala Ala Gly Phe Pro Ile Leu Glu Leu Lys Arg Ile  
 195 200 205  
 Arg Ile Gly Ser Leu Val Leu Gly Gly Leu Arg Tyr Gly Glu Tyr Arg  
 210 215 220  
 Glu Leu Thr Asp Ala Glu Leu Gly Thr Tyr Met Lys Leu Ser Asp  
 225 230 235

<210> 867

<211> 177

<212> PRT

<213> Chlamydia pneumoniae

<400> 867

Ser Pro Met Gly Tyr Val Phe Tyr Val Ile Ala Gly Ser Ile Phe Leu  
 1 5 10 15  
 Gly Ile Ser Leu Gly Ala Tyr Cys Gln Leu Tyr Tyr Ser Val Lys Ser  
 20 25 30  
 Val Leu Phe Ser Trp Tyr Leu Leu Thr Val Tyr Ala Leu Glu Lys Arg  
 35 40 45  
 His Ala Leu Leu Ala Leu Ser Gln Leu Val Gly Glu Glu Asp Ala Gln  
 50 55 60  
 Ser Gln Lys Glu Ile Asp Phe Leu Ser Gln Cys Asp Lys Leu Ser Trp  
 65 70 75 80  
 Arg Ala Phe Leu Lys Asn Ser Tyr Glu Ile Ile Pro Thr Phe Lys Glu  
 85 90 95  
 Met Glu Asp Leu Leu Ser Glu Arg Val Gln Gly Phe Leu Glu Ser Ile  
 100 105 110  
 Glu Thr Ile Ala Glu His Asp Arg Ala Ile Leu Cys Ile Glu Asn Phe  
 115 120 125  
 Trp Ala Ser Lys Asn Leu Phe Asp Phe Glu Ile Ala Ala Tyr Glu Glu  
 130 135 140  
 Ala Val Glu Lys Tyr Leu Lys Leu Arg Gln Arg Ala Pro Leu Arg Leu  
 145 150 155 160  
 Ala Ser Lys Leu Phe Arg Phe Leu Asp Val Pro Ser Ile Arg Phe Ser  
 165 170 175  
 Ser

<210> 868

<211> 193

<212> PRT

<213> Chlamydia pneumoniae

<400> 868

Asn Met Lys Val Ile Tyr Tyr Glu Ile Glu Glu Ile Pro Ser Thr Asn  
 1 5 10 15  
 Thr Met Ala Lys Ser Tyr Met His Leu Trp Asp Pro Tyr Ala Leu Thr  
 20 25 30  
 Val Ile Ser Thr Lys Cys Gln Thr Ala Gly Thr Gly Lys Phe Gly Lys  
 35 40 45  
 Ser Trp Lys Ser Ser Lys Gly Asp Leu Leu Asn Thr Phe Cys Phe Phe  
 50 55 60  
 Ile Thr Asp Leu His Ile Asp Val Ser Arg Leu Phe Arg Leu Gly Thr  
 65 70 75 80

Glu Ala Val Val Ala Leu Cys Lys Asp Leu Gly Ile Thr Glu Ala Lys  
                             85                            90                            95  
 Ile Lys Trp Pro Asn Asp Val Leu Val His Gly Glu Lys Leu Cys Gly  
                             100                            105                            110  
 Val Leu Pro Glu Thr Leu Pro Val Glu Gly Leu Leu Gly Val Val Leu  
                             115                            120                            125  
 Gly Ile Gly Leu Asn Gly Asn Thr Thr Lys Gln Ala Leu Lys Asp Val  
                             130                            135                            140  
 Gly Gln Pro Ala Thr Ser Leu Gln Glu Ile Leu Gly His Pro Ile Asp  
 145                            150                            155                            160  
 Leu Glu Thr Thr Arg Glu Leu Leu Ile His His Leu Leu Gly Val Leu  
                             165                            170                            175  
 Gln Glu Asn Leu Pro Asp Ser Leu Ala Thr Lys Ser Asn Arg Gly Asn  
                             180                            185                            190  
 Ile

<210> 869  
 <211> 421  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 869  
 Cys Ile Arg Ile Pro Gln Met His Ile Gly Phe Cys His Cys Val Arg  
 1                            5                            10                            15  
 Gly Gly Asn Phe Phe Tyr Phe Val Ile Asn Asn Phe His Ile Leu Glu  
                             20                            25                            30  
 Ile Tyr Ser Leu Leu Asn Ser Asn Thr Ile Met Arg Tyr His Lys Tyr  
                             35                            40                            45  
 Phe Arg Tyr Val Asn Ser Trp Val Phe Leu Val Val Leu Thr Leu Met  
 50                            55                            60  
 Leu Leu Ser Val Val Val Ile Ser Ser Met Asp Pro Thr Ala Met Leu  
 65                            70                            75                            80  
 Val Thr Ser Ser Lys Gly Leu Leu Thr Asn Lys Ser Ile Met Gln Leu  
                             85                            90                            95  
 Arg His Phe Ala Leu Gly Trp Val Val Phe Phe Ile Cys Ala Tyr Phe  
                             100                            105                            110  
 Asp Tyr His Leu Phe Lys Arg Trp Ala Trp Val Leu Tyr Phe Phe Met  
                             115                            120                            125  
 Ile Cys Ala Leu Val Gly Leu Phe Phe Val Pro Ser Val Gln Asn Val  
                             130                            135                            140  
 His Arg Trp Tyr Arg Ile Pro Phe Ile His Met Ser Val Gln Pro Ser  
 145                            150                            155                            160  
 Glu Tyr Gly Lys Leu Val Ile Val Ile Met Leu Ser Tyr Ile Leu Glu  
                             165                            170                            175  
 Ser Arg Lys Ala Asp Ile Thr Ser Lys Thr Thr Ala Phe Leu Ala Cys  
                             180                            185                            190  
 Leu Val Val Ala Leu Pro Phe Phe Leu Ile Leu Lys Glu Pro Asp Leu  
                             195                            200                            205  
 Gly Thr Ala Leu Val Leu Cys Pro Val Thr Leu Thr Ile Phe Tyr Leu  
                             210                            215                            220  
 Ser Asn Val His Ser Leu Leu Val Lys Phe Cys Thr Val Val Ala Thr  
 225                            230                            235                            240  
 Ile Gly Ile Ile Gly Ser Leu Leu Ile Phe Ser Gly Ile Val Ser His  
                             245                            250                            255  
 Gln Lys Val Lys Pro Tyr Ala Leu Lys Val Ile Lys Glu Tyr Gln Tyr  
                             260                            265                            270  
 Glu Arg Leu Ser Pro Ser Asn His Gln Arg Ala Ser Leu Ile Ser  
                             275                            280                            285  
 Ile Gly Leu Gly Gly Ile Arg Gly Arg Gly Trp Lys Thr Gly Glu Phe  
                             290                            295                            300

Ala Gly Arg Gly Trp Leu Pro Tyr Gly Tyr Thr Asp Ser Val Phe Ser  
 305 310 315 320  
 Ala Leu Gly Glu Glu Phe Gly Leu Leu Gly Leu Leu Phe Thr Leu Gly  
 325 330 335  
 Leu Phe Tyr Cys Leu Ile Cys Phe Gly Cys Arg Thr Val Ala Val Ala  
 340 345 350  
 Thr Asp Asp Phe Gly Lys Leu Leu Ala Ala Gly Ile Thr Val Tyr Leu  
 355 360 365  
 Ala Met His Val Leu Ile Asn Ile Ser Met Met Cys Gly Leu Leu Pro  
 370 375 380  
 Ile Thr Gly Val Pro Leu Ile Leu Ile Ser Tyr Gly Gly Ser Ser Val  
 385 390 395 400  
 Ile Ser Thr Met Ala Ser Leu Gly Val Leu Gln Ser Ile Tyr Ser His  
 405 410 415  
 Arg Phe Ala Lys Tyr  
 420

<210> 870  
 <211> 688  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 870  
 Asn Phe Arg Asn Gly Leu Gly Val Arg Asp Leu His His Phe Arg Glu  
 1 5 10 15  
 Tyr Tyr Leu Ile Ile Asn Glu Ile Ile Ile Thr Gly Arg Tyr Val Phe  
 20 25 30  
 Ser Arg Leu Phe Phe Thr Ser Phe Ser Ala Glu Val Val Asn Thr Phe  
 35 40 45  
 Phe Glu Ser Gly Met Ser Glu Asp Thr Ser Pro Leu Leu Ser Lys Gln  
 50 55 60  
 Asn Arg Lys Leu Ser His Asn Leu Pro Leu Lys Ser Ala Tyr Leu Ser  
 65 70 75 80  
 Leu Gly Thr Tyr Leu Ile Ala Leu Leu Ser Phe Trp Leu His Ala Lys  
 85 90 95  
 Asn Leu Ser Asn Leu Phe Val Val Phe Thr Phe Phe Leu Ala Gly Thr  
 100 105 110  
 Pro Ala Leu Ile Lys Ser Leu Asp Asn Ile Cys Gln Lys Val Val Asn  
 115 120 125  
 Ile Asp Ile Leu Met Thr Ser Ala Ala Phe Gly Ser Ile Phe Ile Gly  
 130 135 140  
 Gly Ala Leu Glu Gly Ala Leu Leu Leu Val Leu Phe Ala Ile Ser Glu  
 145 150 155 160  
 Ala Leu Gly Gln Met Val Ser Gly Lys Ala Lys Ser Thr Leu Val Ser  
 165 170 175  
 Leu Lys Gln Leu Ala Pro Thr Thr Gly Trp Leu Val Leu Glu Asp Gly  
 180 185 190  
 Asn Leu Gln Lys Val Ala Ile Asn Lys Ile Glu Val Gly Asn Ile Leu  
 195 200 205  
 Arg Ile Lys Ser Gly Glu Val Val Pro Leu Asp Gly Glu Ile Leu His  
 210 215 220  
 Gly Ser Ser Ser Ile Asn Leu Met His Leu Thr Gly Glu Lys Val Pro  
 225 230 235 240  
 Lys Ser Cys His Pro Gly Ser Ile Val Pro Ala Gly Ala His Asn Met  
 245 250 255  
 Glu Gly Ser Phe Asp Leu Arg Val Leu Arg Thr Gly Ser Asp Ser Thr  
 260 265 270  
 Ile Ala His Ile Ile Asn Leu Val Ile Gln Ala Gln Asn Ser Lys Pro  
 275 280 285  
 Arg Leu Gln Gln Arg Leu Asp Lys Tyr Ser Ser Val Tyr Ala Leu Ser  
 290 295 300

Ile	Phe	Ala	Ile	Ala	Cys	Gly	Ile	Ala	Leu	Leu	Val	Pro	Leu	Phe	Thr
305					310					315					320
Ser	Ile	Pro	Leu	Leu	Gly	Pro	Gln	Ser	Ala	Phe	Tyr	Arg	Ala	Leu	Ala
			325						330					335	
Phe	Leu	Ile	Ala	Ala	Ser	Pro	Cys	Ala	Leu	Ile	Ile	Ala	Ile	Pro	Ile
			340					345					350		
Ala	Tyr	Leu	Ser	Ala	Ile	Asn	Ala	Cys	Ala	Lys	His	Gly	Val	Leu	Leu
		355					360					365			
Lys	Gly	Gly	Val	Ile	Leu	Asp	Arg	Leu	Val	Ser	Cys	Asn	Ser	Val	Val
	370					375					380				
Met	Asp	Lys	Thr	Gly	Thr	Leu	Thr	Thr	Gly	Glu	Leu	Thr	Cys	Ile	Gly
385					390					395					400
Cys	Asp	Tyr	Phe	Gly	Ser	Lys	Asn	Glu	Thr	Phe	Phe	Pro	Ser	Val	Leu
			405					410						415	
Ala	Leu	Glu	Gln	Ser	Ser	Ser	His	Pro	Ile	Ala	Glu	Ala	Ile	Val	Ser
			420					425					430		
Tyr	Leu	Met	Glu	Gln	Lys	Val	Ser	Ser	Leu	Pro	Ala	Asp	Arg	Tyr	Leu
		435					440					445			
Thr	Val	Pro	Gly	Glu	Gly	Val	Arg	Gly	Tyr	Phe	Asn	Glu	Gln	Glu	Ala
	450					455					460				
Phe	Val	Gly	Arg	Val	Glu	Thr	Gly	Leu	Gly	Lys	Val	Pro	Ser	Glu	Tyr
465					470					475					480
Leu	Glu	Asp	Ile	Glu	Gln	Lys	Ile	Tyr	Gln	Ala	Lys	Gln	His	Gly	Glu
			485					490						495	
Ile	Cys	Ser	Leu	Ala	Tyr	Val	Gly	Asn	Ser	Phe	Ala	Leu	Phe	Tyr	Phe
			500					505					510		
Arg	Asp	Ile	Pro	Arg	Pro	Gln	Ala	Lys	Glu	Ile	Ile	Gln	Asp	Leu	Lys
	515					520						525			
Asp	Leu	Gly	Tyr	Pro	Val	Ser	Met	Leu	Thr	Gly	Asp	His	Lys	Val	Ser
	530					535				540					
Ala	Glu	Asn	Thr	Ala	Glu	Ile	Leu	Gly	Ile	Ser	Glu	Val	Phe	Phe	Asp
545					550					555					560
Leu	Thr	Pro	Glu	Asp	Lys	Leu	Ala	Lys	Ile	Arg	Glu	Leu	Ala	Thr	Gln
			565					570					575		
Arg	Gln	Ile	Met	Met	Val	Gly	Asp	Gly	Ile	Asn	Asp	Ala	Pro	Ala	Leu
			580					585					590		
Ala	Gln	Ala	Thr	Val	Gly	Ile	Ala	Met	Gly	Glu	Ala	Gly	Ser	Ala	Thr
		595					600					605			
Ala	Ile	Glu	Ala	Ala	Asp	Ile	Val	Leu	Leu	His	Asp	Ser	Leu	Ser	Ser
	610					615					620				
Leu	Pro	Trp	Ile	Ile	Gln	Lys	Ala	Lys	Gln	Thr	Lys	Lys	Val	Val	Ser
625					630					635					640
Gln	Asn	Leu	Ala	Leu	Ala	Leu	Ala	Ile	Ile	Leu	Leu	Val	Ser	Trp	Pro
			645					650						655	
Ala	Ser	Leu	Gly	Ile	Ile	Pro	Leu	Trp	Leu	Ala	Val	Ile	Leu	His	Glu
			660					665					670		
Gly	Ser	Thr	Val	Ile	Val	Gly	Leu	Asn	Ala	Leu	Arg	Leu	Leu	Lys	Ser
		675					680					685			

<210> 871

<211> 274

<212> PRT

<213> Chlamydia pneumoniae

<400> 871

Glu	Gly	Trp	Arg	Phe	Phe	Phe	Pro	Lys	Thr	Ser	Glu	Asn	Thr	Ser	Asp
1				5					10					15	
Cys	Arg	Gln	His	Gln	Ile	Leu	Arg	Lys	Ile	Met	Thr	Gln	Asp	Pro	His
		20						25				30			
Asp	His	Phe	Lys	Ser	Arg	Thr	Pro	Glu	Asp	His	Ile	Lys	His	Val	Arg
		35					40					45			

Asp	Lys	His	Arg	Val	Cys	Lys	Gly	Glu	Pro	His	Thr	Thr	Phe	Lys	Gly
50						55					60				
Phe	Phe	Tyr	His	Leu	Ala	Asn	Asn	Ala	Leu	Ser	Thr	Gly	Val	Phe	Ile
65					70					75					80
Phe	Phe	Ile	Arg	Thr	Leu	Phe	Phe	Leu	Ile	Pro	Thr	Asn	Arg	Ala	Leu
				85					90					95	
Gln	Val	Lys	Ser	Leu	Ile	Ser	Leu	Gly	Val	Gly	Trp	Thr	Phe	Tyr	His
			100					105					110		
Gly	Cys	Leu	Lys	Ala	Arg	Lys	Ala	Trp	Ala	Tyr	Met	Glu	Leu	Ser	His
		115					120					125			
Arg	Ser	Met	Leu	Glu	Glu	Lys	Asn	Glu	Ile	Glu	Glu	Asn	Phe	Glu	Gln
		130				135					140				
Glu	Lys	Ile	Glu	Leu	Arg	Ile	Leu	Phe	Glu	Asn	Gln	Gly	Phe	Lys	Asp
145					150					155					160
Pro	Leu	Leu	Gln	Glu	Met	Val	Glu	Tyr	Val	Cys	Ser	Asp	Ser	Thr	Leu
			165					170						175	
Leu	Leu	Asp	Thr	Met	Ile	Arg	Glu	Glu	Leu	Tyr	Ile	Arg	Lys	Glu	Asp
			180					185					190		
Leu	Pro	His	Pro	Leu	Ile	Gln	Gly	Gly	Ser	Arg	Ile	Leu	Gly	Gly	Leu
		195					200					205			
Cys	Gly	Leu	Ala	Ile	Phe	Leu	Pro	Leu	Val	Leu	Cys	Ile	Ser	Tyr	Thr
	210					215					220				
Leu	Ala	Gly	Val	Phe	Ser	Ala	Leu	Met	Val	Leu	Val	Leu	Ser	Phe	Leu
225					230					235					240
Lys	Ala	Lys	Ile	Leu	Lys	Asn	Asp	Lys	Ile	Ser	Glu	Met	Val	Trp	Val
			245					250						255	
Leu	Gly	Ile	Phe	Ile	Thr	Ser	Ala	Ser	Ile	Ile	Ser	Ser	Leu	Met	Lys
			260					265					270		
Leu	Leu														

<210> 872  
 <211> 478  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 872

Thr	Thr	Thr	His	Pro	Thr	Gln	Gly	Phe	Gly	Gly	Ala	Val	Ile	Leu	Pro
1				5					10					15	
Phe	Ser	Pro	Ile	Ser	Ile	Ala	Arg	Arg	Ile	Lys	Lys	Ser	Cys	Cys	Ser
		20					25					30			
Glu	Lys	Ser	Ser	Ile	Tyr	Ser	His	Phe	Cys	Thr	Leu	Leu	Leu	Asn	Asn
	35					40					45				
Glu	Thr	Ser	Met	Leu	Asp	Ile	Lys	Ile	Ile	Arg	Lys	Thr	Pro	Glu	Glu
	50					55				60					
Cys	Glu	Thr	Arg	Leu	Arg	Lys	Lys	Asp	Pro	Lys	Ile	Ser	Leu	Glu	Pro
65				70						75					80
Val	Leu	Ser	Leu	Asp	Lys	Glu	Val	Arg	Gln	Leu	Lys	Thr	Asp	Ser	Glu
			85					90					95		
Thr	Leu	Gln	Ala	Gln	Arg	Arg	Leu	Leu	Ser	Gln	Asp	Ile	His	Lys	Ala
		100					105						110		
Lys	Thr	Gln	Gly	Val	Asp	Ala	Thr	Asn	Leu	Ile	Gln	Glu	Val	Glu	Thr
		115					120					125			
Leu	Ala	Ala	Asp	Leu	Glu	Lys	Ile	Glu	Gln	His	Leu	Asp	Gln	Lys	Asn
	130					135					140				
Ala	Gln	Leu	His	Glu	Leu	Leu	Ser	His	Leu	Pro	Asn	Tyr	Pro	Ala	Asp
145				150						155					160
Asp	Ile	Pro	Val	Ser	Glu	Asp	Lys	Ala	Gly	Asn	Gln	Val	Ile	Lys	Ser
			165						170					175	
Val	Gly	Asp	Leu	Pro	Ile	Phe	Ser	Phe	Pro	Pro	Lys	His	His	Leu	Glu
			180					185					190		

Leu Asn Gln Glu Leu Asp Ile Leu Asp Phe Gln Ala Ala Ala Lys Thr  
 195 200 205  
 Thr Gly Ser Gly Trp Pro Ala Tyr Lys Asn Arg Gly Val Leu Leu Glu  
 210 215 220  
 Trp Ala Leu Leu Thr Tyr Met Leu Gln Lys Gln Ala Ala His Gly Phe  
 225 230 235 240  
 Gln Leu Trp Leu Pro Leu Leu Val Lys Lys Glu Ile Leu Phe Gly  
 245 250 255  
 Ser Gly Gln Ile Pro Lys Phe Asp Gly Gln Tyr Tyr Arg Val Glu Asp  
 260 265 270  
 Gly Glu Gln Tyr Leu Tyr Leu Ile Pro Thr Ala Glu Val Val Leu Asn  
 275 280 285  
 Gly Phe Arg Ser Gln Asp Ile Leu Thr Glu Lys Glu Leu Pro Leu Tyr  
 290 295 300  
 Tyr Ala Ala Cys Thr Pro Cys Phe Arg Arg Glu Ala Gly Ala Ala Gly  
 305 310 315 320  
 Ala Gln Glu Arg Gly Leu Val Arg Val His Gln Phe His Lys Val Glu  
 325 330 335  
 Met Phe Ala Phe Thr Thr Pro Asn Gln Asp Asp Ile Ala Tyr Glu Lys  
 340 345 350  
 Met Leu Ser Ile Val Glu Glu Met Leu Thr Glu Leu Lys Leu Pro Tyr  
 355 360 365  
 Arg Leu Ser Leu Leu Ser Thr Gly Asp Met Ser Phe Thr Ala Ser Lys  
 370 375 380  
 Thr Ile Asp Ala Glu Val Trp Leu Pro Gly Gln Lys Ala Phe Tyr Glu  
 385 390 395 400  
 Val Ser Ser Ile Ser Gln Cys Thr Asp Phe Gln Ser Arg Arg Ser Gly  
 405 410 415  
 Thr Arg Tyr Lys Asp Ser Gln Gly Lys Leu Gln Phe Val His Thr Leu  
 420 425 430  
 Asn Gly Ser Gly Leu Ala Thr Pro Arg Leu Leu Val Ala Ile Leu Glu  
 435 440 445  
 Asn Asn Gln Gln Ala Asp Gly Ser Val Val Ile Pro Glu Val Leu Arg  
 450 455 460  
 Pro Tyr Leu Gly Gly Leu Glu Ile Leu Leu Pro Lys Asp Gln  
 465 470 475

<210> 873

<211> 378

<212> PRT

<213> Chlamydia pneumoniae

<400> 873

Glu Tyr Met Glu Asp Phe Ser Glu Gln Gln Leu Phe Phe Met Arg Arg  
 1 5 10 15  
 Ala Ile Glu Ile Gly Glu Lys Gly Arg Ile Thr Ala Pro Pro Asn Pro  
 20 25 30  
 Trp Val Gly Cys Val Val Val Gln Glu Asn Arg Ile Ile Gly Glu Gly  
 35 40 45  
 Phe His Ala Tyr Ala Gly Gly Pro His Ala Glu Glu Leu Ala Ile Gln  
 50 55 60  
 Asn Ala Ser Met Pro Ile Ser Gly Ser Asp Val Tyr Val Ser Leu Glu  
 65 70 75 80  
 Pro Cys Ser His Phe Gly Ser Cys Pro Pro Cys Ala Asn Leu Leu Ile  
 85 90 95  
 Lys His Lys Val Ser Arg Val Phe Val Ala Leu Val Asp Pro Asp Pro  
 100 105 110  
 Lys Val Ala Gly Gln Gly Ile Ala Met Leu Arg Gln Ala Gly Ile Gln  
 115 120 125  
 Val Tyr Val Gly Ile Gly Glu Ser Glu Ala Gln Ala Ser Leu Gln Pro  
 130 135 140



Tyr	Leu	Tyr	Gln	Arg	Thr	His	Asn	Phe	Pro	Trp	Thr	Ile	Leu	Lys	Ser
145					150					155					160
Ala	Ala	Ser	Val	Asp	Gly	Gln	Val	Ala	Asp	Ser	Gln	Gly	Lys	Ser	Gln
				165					170						175
Trp	Ile	Thr	Cys	Pro	Glu	Ala	Arg	His	Asp	Val	Gly	Lys	Leu	Arg	Ala
			180					185						190	
Glu	Ser	Gln	Ala	Ile	Leu	Val	Gly	Ser	Arg	Thr	Val	Leu	Ser	Asp	Asp
		195					200					205			
Pro	Trp	Leu	Thr	Ala	Arg	Gln	Pro	Gln	Gly	Met	Leu	Tyr	Pro	Lys	Gln
	210					215					220				
Pro	Leu	Arg	Val	Val	Leu	Asp	Ser	Arg	Gly	Ser	Val	Pro	Pro	Thr	Ser
225					230					235					240
Lys	Val	Phe	Asp	Lys	Thr	Ser	Pro	Thr	Leu	Tyr	Val	Thr	Thr	Glu	Arg
				245					250					255	
Cys	Pro	Glu	Asn	Tyr	Ile	Lys	Val	Leu	Asp	Ser	Leu	Asp	Val	Pro	Val
		260						265					270		
Leu	Leu	Thr	Glu	Ser	Thr	Pro	Ser	Gly	Val	Asp	Leu	His	Lys	Val	Tyr
		275					280					285			
Glu	Tyr	Leu	Ala	Gln	Lys	Lys	Ile	Leu	Gln	Val	Leu	Val	Glu	Gly	Gly
	290					295					300				
Thr	Thr	Leu	His	Thr	Ser	Leu	Leu	Lys	Glu	Arg	Phe	Val	Asn	Ser	Leu
305						310				315					320
Val	Leu	Tyr	Ser	Gly	Pro	Met	Ile	Leu	Gly	Asp	Gln	Lys	Arg	Pro	Leu
				325					330					335	
Val	Gly	Val	Leu	Gly	Asn	Leu	Leu	Glu	Ser	Ala	Ser	Pro	Leu	Thr	Leu
			340					345					350		
Lys	Ser	Ser	Gln	Ile	Leu	Gly	Asn	Ser	Leu	Lys	Val	Val	Trp	Glu	Ile
		355					360						365		
Ser	Pro	Gln	Val	Phe	Glu	Pro	Ile	Arg	Asn						
	370					375									

<210> 874  
 <211> 438  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 874

Lys	Glu	Arg	Ile	Phe	Arg	Val	Ala	Cys	Leu	Ala	Ser	Glu	Ser	Val	Asn
1				5					10					15	
Ala	Arg	Glu	Ser	Met	Ile	Glu	Thr	Arg	Glu	Glu	Val	Gly	Ser	Ala	Asn
		20						25					30		
Phe	Val	Ser	Leu	Glu	Arg	Ala	Ile	Glu	Asp	Leu	Arg	Ala	Gly	Lys	Phe
	35					40						45			
Val	Ile	Val	Val	Asp	Glu	Ala	Ser	Arg	Glu	Asp	Glu	Gly	Asp	Leu	Ile
	50					55					60				
Ile	Ala	Gly	Glu	Lys	Ile	Thr	Val	Glu	Lys	Met	Thr	Phe	Leu	Leu	Gln
65					70					75					80
His	Thr	Thr	Gly	Val	Val	Cys	Ala	Ala	Leu	Ser	Gln	Glu	Arg	Leu	Leu
			85						90					95	
Ser	Leu	Asp	Leu	Pro	Pro	Met	Val	Lys	Asp	Asn	Arg	Cys	Arg	Phe	Lys
		100						105						110	
Thr	Pro	Phe	Thr	Val	Ser	Val	Asp	Ala	Ala	His	Gly	Val	Thr	Thr	Gly
		115					120						125		
Val	Ser	Ala	Ala	Asp	Arg	Thr	Lys	Val	Val	Gln	Leu	Leu	Ala	Asp	Pro
		130					135				140				
Lys	Ser	Lys	Pro	Glu	Asp	Phe	Ile	Ser	Pro	Gly	His	Phe	Phe	Pro	Leu
145					150					155					160
Ala	Ser	Ser	Pro	Gly	Gly	Val	Leu	Lys	Arg	Ala	Gly	His	Thr	Glu	Ser
				165					170					175	
Thr	Val	Asp	Leu	Met	Glu	Leu	Ala	Gly	Leu	Gln	Pro	Cys	Gly	Val	Leu
			180					185						190	

Ala Glu Leu Val Asn Glu Asp Tyr Ser Met Met Arg Leu Pro Gln Ile  
 195 200 205  
 Leu Glu Phe Ala Arg Lys His Asn Ile Ala Val Ile Pro Val Thr Ser  
 210 215 220  
 Ile Ile Ala His Arg Met Leu Ser Asp Arg Leu Val Ser Lys Ile Ser  
 225 230 235 240  
 Ser Ala Arg Leu Pro Thr Ile Tyr Gly Asp Phe Thr Ile His Val Tyr  
 245 250 255  
 Glu Ser Leu Leu Glu Gly Met Gln His Leu Ala Leu Val Lys Gly Asn  
 260 265 270  
 Val Ala Gly Lys Ser Asn Val Leu Val Arg Val His Ser Glu Cys Val  
 275 280 285  
 Thr Gly Asp Ile Leu Gly Ser Lys Arg Cys Asp Cys Gly Glu Gln Leu  
 290 295 300  
 Ser Ser Ala Met Ser Tyr Ile Ala Glu Lys Gly Thr Gly Val Leu Val  
 305 310 315 320  
 Tyr Leu Arg Gly Gln Glu Gly Arg Gly Ile Gly Leu Gly His Lys Val  
 325 330 335  
 Arg Ala Tyr Ala Leu Gln Asp Asn Gly Tyr Asp Thr Val Asp Ala Asn  
 340 345 350  
 Leu Ala Met Gly Phe Pro Val Asp Ser Arg Glu Tyr Gly Ile Gly Ala  
 355 360 365  
 Gln Ile Leu Val Asp Leu Lys Leu Thr Thr Ile Lys Leu Ile Thr His  
 370 375 380  
 Asn Pro Gln Lys Tyr Phe Gly Leu Gln Gly Phe Gly Leu Ser Ile Thr  
 385 390 395 400  
 Glu Arg Val Pro Leu Pro Val Arg Ile Ser Glu Asp Asn Glu Gln Tyr  
 405 410 415  
 Leu Arg Thr Lys Gln Glu Arg Met Gly His Trp Leu Asp Leu Pro Cys  
 420 425 430  
 Cys Asn Asn Arg Val Gln  
 435

<210> 875  
 <211> 169  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 875  
 Ile Ser His Ala Val Thr Ile Gly Tyr Asn Asn Phe Glu Glu Tyr Met  
 1 5 10 15  
 Lys Thr Leu Lys Gly His Leu Ser Ala Lys Asn Leu Arg Ile Ala Ile  
 20 25 30  
 Val Gly Ser Cys Phe Asn Gln Ala Met Ala Asp Ala Leu Val Ser Gly  
 35 40 45  
 Thr Gln Glu Thr Phe Leu Lys Phe Gly Gly Ser Glu Asp Gly Leu Met  
 50 55 60  
 Thr Ile Arg Val Pro Gly Ala Phe Glu Ile Pro Cys Thr Ile Lys Lys  
 65 70 75 80  
 Leu Leu Ser Ser Glu Arg Lys Phe Asp Ala Ile Val Ala Cys Gly Val  
 85 90 95  
 Leu Ile Gln Gly Glu Thr Asp His Tyr Asn Gln Ile Val Asn Gln Val  
 100 105 110  
 Ala Ala Gly Ile Gly Ala Leu Ser Leu Glu Phe Cys Leu Pro Ile Thr  
 115 120 125  
 Leu Ser Ile Val Ala Ala Pro Ser Ala Glu Ile Ala Trp Gln Arg Ser  
 130 135 140  
 Gly Ile Lys Gly Arg His Leu Gly Val Ser Gly Met Thr Thr Ala Ile  
 145 150 155 160  
 Glu Met Ala Thr Leu Phe Thr Gln Ile  
 165

<210> 876  
 <211> 472  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 876

Leu Ile Ser Leu Asn Leu Lys Ile Leu Thr Lys Gln Arg Asp Arg Glu  
 1 5 10 15  
 Glu Ala Ser Met Leu Lys Ile Leu Lys Ile Lys Val Leu Val Phe Pro  
 20 25 30  
 Leu Ala Leu Leu Met Gly Cys Asn Ser Ile Gly Tyr Ala Gly Pro Gln  
 35 40 45  
 Gly Ser Leu Gln Thr Asn Ser Gln Thr Lys Val Lys Ile Gly Ser Glu  
 50 55 60  
 Val Trp Ile Glu Gln Lys Leu Arg Gln Tyr Pro Glu Leu Leu Trp Leu  
 65 70 75 80  
 Thr Glu Ser Gly Gly Ala Pro Leu Leu Thr Ser Thr Pro Ile Asp Met  
 85 90 95  
 Ala Tyr Ser Glu Lys Leu Phe Asn Lys Lys Val Pro Ala Leu Asp Ile  
 100 105 110  
 Ala Ile Arg Ser Met Ile His Leu His Leu Leu Ile Gln Gly Ser Arg  
 115 120 125  
 Gln Ser Tyr Met Gln Leu Ser Gln Ile Leu Pro Ser Glu Glu Gly Gly  
 130 135 140  
 Met Thr Phe Lys Gln Phe Gln Thr Ala His Lys Gln Leu Leu Phe Phe  
 145 150 155 160  
 Leu Asn Ser Pro Lys Ser Phe Asp Asn Thr Leu Arg Ile Leu Glu Thr  
 165 170 175  
 Ala Ile Val Leu Arg His Val Gly Cys Ser Ala Lys Ala Val Thr Thr  
 180 185 190  
 Phe Lys Pro Tyr Phe Thr Asp Ser Cys Pro Gln Ser Phe Tyr Ala Lys  
 195 200 205  
 Ala Leu His Val Leu Arg Thr Phe Pro Glu Leu Cys Pro Ser Tyr Ala  
 210 215 220  
 Arg Leu Ser Pro Glu Gln Gln Glu Val Leu Leu Ser Leu Arg Arg Leu  
 225 230 235 240  
 Gly Asn Tyr Asp Ser Leu Leu Asn Leu Thr Glu Val Pro Ser Ala Gln  
 245 250 255  
 Leu Leu Ser Ala Trp Arg Thr Arg Arg Ser Leu Ala Ile Leu Asp Leu  
 260 265 270  
 Tyr Leu Tyr Cys Leu Asp Thr Cys Gly Asp Lys Asn Cys Ser Gln Glu  
 275 280 285  
 Phe Tyr Ile Asn Phe Ala Pro Leu Leu Ser Met Leu Gln Gln His Ala  
 290 295 300  
 Thr Ile Glu Glu Ala Phe Ser Arg Tyr Phe Thr Tyr Arg Ala Asn Arg  
 305 310 315 320  
 Leu Gly Phe Glu Gly Thr Ser Arg Thr Asp Met Thr Leu Val Arg Leu  
 325 330 335  
 Ala Thr Leu Met Asn Leu Ser Pro Ser Glu Ala Ser Thr Leu Ala Trp  
 340 345 350  
 Ser Phe Lys Asn Leu Pro Ser Asp Glu Ala Glu Asn Leu Val Asn Ser  
 355 360 365  
 Phe Tyr Thr Val Gln Gly Glu His Ile Pro Leu Thr Phe Arg Gly Leu  
 370 375 380  
 Pro Ser Leu Val Ala Gly Leu Ser Val Ala Thr His Gly Ser Thr Val  
 385 390 395 400  
 Ser Pro Glu Asn Arg Leu Arg Gln Leu Tyr Ser Thr Met Leu Ser Leu  
 405 410 415  
 Leu Val Lys Ser Leu Arg Ser His Arg Glu Met Leu Asn Lys Gln Leu  
 420 425 430

Leu Pro Gln Gly Thr Val Leu Asp Phe Ser Glu Thr Thr Leu Ser Ser  
 435 440 445  
 Gly Gly Leu Asp Val Phe Ala Glu Ser Ile Ala Val Arg Ile His Leu  
 450 455 460  
 Asn Gly Ala Val Ser Ile Asn Leu  
 465 470

<210> 877  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 877  
 Leu Lys Ile Met Lys Arg Val Ile Tyr Lys Thr Ile Phe Cys Gly Leu  
 1 5 10 15  
 Thr Leu Leu Thr Ser Leu Ser Ser Cys Ser Leu Asp Pro Lys Gly Tyr  
 20 25 30  
 Asn Leu Glu Thr Lys Asn Ser Arg Asp Leu Asn Gln Glu Ser Val Ile  
 35 40 45  
 Leu Lys Glu Asn Arg Glu Thr Pro Ser Leu Val Lys Arg Leu Ser Arg  
 50 55 60  
 Arg Ser Arg Arg Leu Phe Ala Arg Arg Asp Gln Thr Gln Lys Asp Thr  
 65 70 75 80  
 Leu Gln Val Gln Ala Asn Phe Lys Thr Tyr Ala Glu Lys Ile Ser Glu  
 85 90 95  
 Gln Asp Glu Arg Asp Leu Ser Phe Val Val Ser Ser Ala Ala Glu Lys  
 100 105 110  
 Ser Ser Ile Ser Leu Ala Leu Ser Gln Gly Glu Ile Lys Asp Ala Leu  
 115 120 125  
 Tyr Arg Ile Arg Glu Val His Pro Leu Ala Leu Ile Glu Ala Leu Ala  
 130 135 140  
 Glu Asn Pro Ala Leu Ile Glu Gly Met Lys Lys Met Gln Gly Arg Asp  
 145 150 155 160  
 Trp Ile Trp Asn Leu Phe Leu Thr Gln Leu Ser Glu Val Phe Ser Gln  
 165 170 175  
 Ala Trp Ser Gln Gly Val Ile Ser Glu Glu Asp Ile Ala Ala Phe Ala  
 180 185 190  
 Ser Thr Leu Gly Leu Asp Ser Gly Thr Val Ala Ser Ile Val Gln Gly  
 195 200 205  
 Glu Arg Trp Pro Glu Leu Val Asp Ile Val Ile Thr  
 210 215 220

<210> 878  
 <211> 465  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 878  
 Ser Ile Ala Thr Gly Glu Thr Met Leu Tyr Phe Ile Glu Gln Leu Asn  
 1 5 10 15  
 Lys Leu Ser Thr Ser Phe Cys Val Phe Pro Met Ile Leu Leu Leu Gly  
 20 25 30  
 Gly Phe Leu Thr Trp Lys Leu Arg Gly Leu Gln Phe His Gly Leu Lys  
 35 40 45  
 Leu Gly Phe Asn Leu Met Leu Gln Asn Lys Leu Asp Asp Ser Ser Ser  
 50 55 60  
 Lys Ala Asn Glu Val Ser Ser Tyr Glu Ala Val Ala Gly Ile Leu Ala  
 65 70 75 80  
 Gly Asn Phe Gly Thr Gly Asn Ile Ala Gly Met Ala Val Ala Leu Ala  
 85 90 95

Cys Gly Gly Pro Gly Ala Leu Val Trp Val Trp Leu Ala Ala Leu Leu  
 100 105 110  
 Gly Ala Ile Val Gln Tyr Ala Gly Ser Tyr Leu Gly Ser Lys Tyr Arg  
 115 120 125  
 Lys Pro Glu Gly Asn Thr Gly Glu Phe Ile Gly Gly Pro Ile Ala Cys  
 130 135 140  
 Leu Ala Phe Gly Met Arg Lys Lys Ile Leu Ala Gly Phe Phe Ala Leu  
 145 150 155 160  
 Phe Thr Ile Met Thr Ala Phe Cys Ala Gly Asn Cys Val Gln Val Ser  
 165 170 175  
 Cys Ile Val Pro Leu Cys Ala Glu Gly Thr Pro Gly Lys Leu Leu Val  
 180 185 190  
 Gly Ile Leu Leu Ala Leu Val Val Ile Pro Val Leu Ala Gly Gly Asn  
 195 200 205  
 Asn Arg Ile Leu Arg Phe Ser Ala Arg Val Ile Pro Phe Ile Ala Gly  
 210 215 220  
 Phe Tyr Cys Ile Ser Cys Gly Ile Ile Leu Phe Gln His Ala Ser Ala  
 225 230 235 240  
 Ile Leu Pro Ala Ile Lys Leu Ile Cys Ser Ser Ala Phe Gly Ile Lys  
 245 250 255  
 Ala Gly Leu Ala Gly Ile Gly Gly Tyr Thr Leu Ser Gln Val Ile Ser  
 260 265 270  
 Thr Gly Ile Asn Arg Ala Val Met Ala Thr Asp Cys Gly Ser Gly Met  
 275 280 285  
 Val Ser Ile Leu Gln Ala Asn Thr Lys Ser Lys Asn Pro Val Val Asp  
 290 295 300  
 Gly Leu Val Thr Leu Val Pro Pro Val Ile Val Met Val Val Cys Ser  
 305 310 315 320  
 Ile Thr Met Leu Val Leu Ile Val Ser Gly Ala Tyr Ser Ser Gly Ala  
 325 330 335  
 Gln Gly Thr Leu Met Val Met Ser Ala Phe Lys Asn Ser Leu Gly Ser  
 340 345 350  
 Leu Gly Ser Val Ile Val Ile Leu Ala Met Ala Leu Phe Gly Tyr Thr  
 355 360 365  
 Thr Ile Leu Thr Trp Phe Ala Cys Ala Glu Lys Ser Leu Gln Tyr Met  
 370 375 380  
 Ile Pro Gly Arg Arg Ala Asn Leu Trp Leu Lys Ala Ile Tyr Val Leu  
 385 390 395 400  
 Ile Ile Pro Leu Gly Gly Val Ile Asp Met Arg Met Ile Trp Ala Leu  
 405 410 415  
 Ser Asp Thr Gly Phe Ser Gly Met Val Ile Leu Asn Cys Ile Ala Leu  
 420 425 430  
 Ile Ala Leu Leu Lys Asp Val Leu Ser Thr Asn Arg Asp Val Ala Leu  
 435 440 445  
 Leu Lys Glu Arg Glu Cys Ser Val Ala Asp Pro Val Arg Asn Leu Asp  
 450 455 460  
 Ala  
 465

<210> 879

<211> 154

<212> PRT

<213> Chlamydia pneumoniae

<400> 879

Arg Arg Arg Ile Met Gln Leu Leu Ser Pro Ala Phe Ala Tyr Gly Ala  
 1 5 10 15  
 Pro Ile Pro Lys Lys Tyr Thr Cys Gln Gly Ala Gly Ile Ser Pro Pro  
 20 25 30  
 Leu Thr Phe Val Asp Val Pro Gly Ala Ala Gln Ser Leu Ala Leu Ile  
 35 40 45

Val	Glu	Asp	Pro	Asp	Val	Pro	Lys	Glu	Ile	Arg	Ser	Asp	Gly	Leu	Trp
50						55					60				
Ile	His	Trp	Ile	Val	Tyr	Asn	Leu	Ser	Thr	Thr	Ile	Thr	Asn	Leu	Ala
65					70					75				80	
Glu	Gly	Ala	Glu	Ile	Phe	Ala	Val	Gln	Gly	Leu	Asn	Thr	Ser	Gly	Lys
				85					90					95	
Pro	Val	Tyr	Glu	Gly	Pro	Cys	Pro	Pro	Asp	Lys	Gln	His	Arg	Tyr	Phe
			100					105					110		
Phe	Thr	Leu	Phe	Ala	Leu	Asp	Val	Val	Leu	Pro	Glu	Glu	Glu	Asn	Val
		115					120					125			
Thr	Arg	Asp	Gln	Leu	Tyr	Glu	Ala	Met	Glu	Phe	His	Ile	Ile	Glu	Gln
	130					135					140				
Ala	Glu	Leu	Met	Gly	Thr	Tyr	Glu	Lys	Ser						
145						150									

<210> 880

<211> 223

<212> PRT

<213> Chlamydia pneumoniae

<400> 880

Gly	Cys	Met	Ser	Thr	Val	Thr	Thr	Glu	Pro	Cys	Ser	Ser	Ile	His	Ile
1				5				10					15		
Ser	Leu	Asn	Asn	Asp	Trp	Arg	Asp	Ser	Gln	Pro	Tyr	Ser	Leu	Asp	Arg
		20					25					30			
Ala	Ser	Glu	Leu	Leu	His	Phe	Arg	Phe	Leu	Pro	Ser	Leu	Val	Phe	Ser
		35					40				45				
Asn	Trp	Lys	Val	Glu	Gln	Gln	Ile	Glu	Thr	Leu	Cys	His	Lys	Ser	Glu
	50					55					60				
Lys	Arg	Arg	Leu	Ile	Ser	Pro	Leu	Ala	Lys	Trp	Leu	Gly	Lys	Leu	His
65					70				75					80	
Lys	Gln	Asp	Leu	Leu	Cys	Pro	Pro	Ala	Pro	Pro	Val	Ser	Val	Cys	Trp
			85					90					95		
Ile	Asn	Ala	His	Val	Gly	Tyr	Gly	Val	Phe	Ala	Arg	Asp	Glu	Ile	Ala
		100					105					110			
Pro	Trp	Thr	Tyr	Ile	Gly	Glu	Tyr	Thr	Gly	Ile	Leu	Arg	His	Arg	Gln
		115					120					125			
Ala	Ile	Trp	Met	Asp	Glu	Asn	Asp	Tyr	Cys	Phe	Arg	Tyr	Pro	Met	Pro
	130					135					140				
Leu	Phe	Thr	Leu	Arg	Tyr	Phe	Thr	Ile	Asp	Ser	Gly	Lys	Gln	Gly	Asn
145					150				155					160	
Val	Thr	Arg	Phe	Ile	Asn	His	Ser	Glu	Gln	Pro	Asn	Ala	Glu	Ala	Ile
			165					170					175		
Gly	Val	Phe	Ser	Glu	Gly	Leu	Phe	His	Val	Ile	Ile	Arg	Thr	Val	Ala
		180					185					190			
Pro	Ile	Tyr	Ala	Gly	Gln	Glu	Ile	Cys	Tyr	His	Tyr	Gly	Pro	Leu	Tyr
		195				200					205				
Trp	Lys	His	Arg	Lys	Lys	Arg	Glu	Glu	Phe	Ile	Pro	Glu	Glu	Glu	
	210					215					220				

<210> 881

<211> 273

<212> PRT

<213> Chlamydia pneumoniae

<400> 881

Tyr	Arg	Ile	Leu	Trp	Lys	Val	Ser	Met	Gln	Gly	Phe	Phe	Pro	Leu	Ala
1				5					10					15	
Ser	Gly	Ser	Lys	Gly	Asn	Ser	Ala	Tyr	Leu	Gly	Thr	Asp	Ser	Cys	Lys
			20					25					30		

Ile Leu Ile Asp Leu Gly Val Ser Lys Gln Val Val Thr Arg Glu Leu  
 35 40 45  
 Leu Ser Met Asn Ile Asp Pro Glu Asp Ile Gln Ala Ile Phe Val Thr  
 50 55 60  
 His Glu His Ser Asp His Ile Ser Gly Ile Lys Ser Phe Val Lys Ala  
 65 70 75 80  
 Tyr Asn Thr Pro Ile Val Cys Asn Leu Glu Thr Ala Arg Ala Leu Cys  
 85 90 95  
 His Leu Leu Asp Ser His Pro Glu Phe Lys Ile Phe Ser Thr Gly Ser  
 100 105 110  
 Ser Phe Cys Phe Gln Asp Leu Glu Val Gln Thr Phe Asn Val Pro His  
 115 120 125  
 Asp Ala Val Asp Pro Val Ala Phe Ile Phe His Tyr Arg Glu Glu Lys  
 130 135 140  
 Leu Gly Phe Cys Thr Asp Leu Gly Trp Val Thr Ser Trp Ile Thr His  
 145 150 155 160  
 Glu Leu Tyr Asp Cys Asp Tyr Leu Leu Ile Glu Ser Asn His Ser Pro  
 165 170 175  
 Glu Leu Val Arg Gln Ser Gln Arg Pro Asp Val Tyr Lys Lys Arg Val  
 180 185 190  
 Leu Ser Lys Leu Gly His Ile Ser Asn Gln Glu Cys Gly Gln Leu Leu  
 195 200 205  
 Gln Lys Ile Ile Thr Pro Lys Leu Lys Lys Leu Tyr Leu Ala His Leu  
 210 215 220  
 Ser Thr Glu Cys Asn Thr Ala Glu Leu Ala Leu Ser Thr Val Ser Glu  
 225 230 235 240  
 Ser Ile Ala Ser Ile Thr Ser Ile Ala Pro Glu Ile Ala Leu Ala Gln  
 245 250 255  
 Gly Ile Thr Ser Pro Ile Tyr Phe Ser Arg Leu Glu Val Ala Cys Pro  
 260 265 270  
 Arg

<210> 882  
 <211> 807  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 882  
 Pro Met Ile Arg Glu Arg Lys Lys Ser Arg His Pro Arg Leu Pro Thr  
 1 5 10 15  
 Leu Pro Leu Ala Ala Lys Ala Ser Leu Tyr Leu Phe Phe Ala Cys Phe  
 20 25 30  
 Ser Gly Leu Ser Leu Trp Ser Phe His Arg Asp Gln Pro Cys Thr Gln  
 35 40 45  
 Asn Trp Ile Gly Leu Leu Gly Trp Ser Phe Ser Ser Phe Leu Leu Tyr  
 50 55 60  
 Phe Phe Gly Ala Ala Ala Phe Phe Ile Pro Leu Tyr Phe Leu Trp Leu  
 65 70 75 80  
 Ser Phe Leu Tyr Phe Arg Arg Thr Pro Arg Pro Leu Phe Phe Tyr Lys  
 85 90 95  
 Ala Ala Ala Phe Leu Ser Leu Pro Phe Cys Ser Ala Ile Leu Leu Ser  
 100 105 110  
 Met Leu Ser Pro Val Gly Thr Leu Pro Ala Leu Leu Asp Thr Arg Leu  
 115 120 125  
 Pro Lys Phe Ile Leu Gly Asn Asn Pro Pro Val Ser Tyr Val Gly Gly  
 130 135 140  
 Ile Pro Phe Tyr Leu Phe Tyr Glu Gly Gln Ser Phe Cys Leu Lys His  
 145 150 155 160  
 Leu Ile Gly Ser Val Gly Thr Ala Leu Ile Phe Gly Phe Val Met Leu  
 165 170 175

Phe Ser Val Leu Tyr Leu Cys Gly Gly Ile Ala Leu Leu Lys Lys Lys  
180 185 190  
Thr Phe Gln Asp Gly Val Lys Lys Ala Phe Cys Ser Phe Phe Gln Thr  
195 200 205  
Cys Phe Lys Asn Leu Lys Lys Leu Ile Asn Arg Arg Asn Tyr Leu Pro  
210 215 220  
Lys Pro Ser Val Pro Phe Val Ser Lys Asn Pro Phe Ser Cys Thr Lys  
225 230 235 240  
Ser Gln Pro Ser Pro Arg Arg Val Ser Glu Thr Ile Ile Leu Asp Gly  
245 250 255  
Ser Ile Ser Pro Leu Pro Gln Glu Glu Ile Pro Gly Ser Lys Lys Glu  
260 265 270  
Ser Phe Phe Leu Thr Pro His Pro Cys Lys Arg Phe Leu Thr Lys Phe  
275 280 285  
Val Glu Pro Gln Glu Asn Lys Ala Lys Glu Gly Lys Thr Ile Ala Leu  
290 295 300  
Ser Ser Thr Pro Thr Val Arg Glu Ser Lys Gly Lys Glu Arg Ala  
305 310 315 320  
Ala Leu Pro Lys Leu Lys Ser Leu Ala Val Pro Glu Asn Asp Leu Pro  
325 330 335  
Gln Tyr His Leu Leu Ser Lys Asn Arg Glu Ala Arg Pro Glu Ser Leu  
340 345 350  
Gln Ala Glu Leu Glu Arg Lys Ala Leu Ile Leu Lys Gln Thr Leu Thr  
355 360 365  
Ser Phe Gly Ile Asp Ala Asp Leu Gly Asn Ile Cys Ser Gly Pro Thr  
370 375 380  
Leu Ala Ala Phe Glu Val Leu Pro His Ser Gly Val Lys Val Gln Lys  
385 390 395 400  
Ile Lys Ser Leu Glu Asn Asp Ile Ala Leu Lys Leu Gln Ala Ser Ser  
405 410 415  
Ile Arg Ile Ile Ala Pro Ile Pro Gly Lys Ala Ala Val Gly Ile Glu  
420 425 430  
Ile Pro Thr Pro Phe Pro Gln Ala Val Asn Phe Arg Asp Leu Leu Glu  
435 440 445  
Asp Tyr Gln Lys Thr Asn Arg Lys Leu Gln Ile Pro Leu Leu Leu Gly  
450 455 460  
Lys Lys Ala Asn Gly Asp Asn Leu Trp Ala Asp Leu Ala Thr Met Pro  
465 470 475 480  
His Leu Ile Ile Ala Gly Thr Thr Gly Ser Gly Lys Ser Val Cys Ile  
485 490 495  
Asn Thr Ile Val Met Ser Met Ile Met Thr Thr Leu Pro Ser Glu Ile  
500 505 510  
Lys Leu Val Ile Ile Asp Pro Lys Lys Val Glu Leu Thr Gly Tyr Ser  
515 520 525  
Gln Leu Pro His Met Leu Ser Pro Val Ile Thr Glu Ser Arg Glu Val  
530 535 540  
Tyr Asn Ala Leu Val Trp Leu Val Lys Glu Met Glu Ser Arg Tyr Glu  
545 550 555 560  
Ile Leu Arg Tyr Leu Gly Leu Arg Asn Ile Gln Ala Phe Asn Ser Arg  
565 570 575  
Thr Arg Asn Lys Thr Ile Glu Ala Ser Tyr Asp Arg Glu Ile Arg Glu  
580 585 590  
Thr Met Pro Phe Met Val Gly Ile Ile Asp Glu Leu Ser Asp Leu Leu  
595 600 605  
Leu Ser Ser Ser Gln Asp Ile Glu Thr Pro Ile Ile Arg Leu Ala Gln  
610 615 620  
Met Ala Arg Ala Val Gly Ile His Leu Ile Leu Ala Thr Gln Arg Pro  
625 630 635 640  
Ser Arg Glu Val Ile Thr Gly Leu Ile Lys Ala Asn Phe Pro Ser Arg  
645 650 655



Ile Ser Phe Lys Val Ser Asn Lys Val Asn Ser Gln Ile Ile Ile Asp  
 660 665 670  
 Glu Pro Gly Ala Glu Asn Leu Met Gly Asn Gly Asp Met Leu Val Leu  
 675 680 685  
 Leu Pro Ser Val Phe Gly Thr Ile Arg Ala Gln Gly Ala Tyr Ile Cys  
 690 695 700  
 Asp Glu Asp Ile Asn Lys Val Ile Gln Asp Leu Cys Ser Arg Phe Pro  
 705 710 715 720  
 Thr Gln Tyr Val Ile Pro Ser Phe His Ala Phe Asp Asp Ser Asp Ser  
 725 730 735  
 Asp Asn Ser Gly Glu Lys Asp Pro Leu Phe Ala Gln Ala Lys Thr Leu  
 740 745 750  
 Ile Leu Gln Thr Gly Asn Ala Ser Thr Thr Phe Leu Gln Arg Lys Leu  
 755 760 765  
 Lys Ile Gly Tyr Ala Arg Ala Ala Ser Leu Ile Asp Gln Leu Glu Glu  
 770 775 780  
 Ala Arg Ile Ile Gly Pro Ser Glu Gly Ala Lys Pro Arg Gln Ile Leu  
 785 790 795 800  
 Ile Gln Asn Pro Leu Glu Gly  
 805

<210> 883  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 883  
 Asn Lys Lys Phe Ala Val His Met Pro Val Pro Ile Asp Asn Ser Ser  
 1 5 10 15  
 Arg Asn Leu Gln Glu Val Pro Glu Ser Leu Glu Asp Leu Glu Gln His  
 20 25 30  
 Ala Glu Glu Ser Pro Thr His Gln Ser Ala Glu Ser Ser Ser Leu Gln  
 35 40 45  
 Leu Ser Leu Ala Ser Ser Ala Ile Ser Ser Arg Val Glu Gln Leu Ser  
 50 55 60  
 Ser Leu Val Leu Gly Met Glu Asn Ser Asp Phe Ser Ser Leu Arg Asp  
 65 70 75 80  
 Val Pro Ile Phe Ser Ala Ile Tyr Glu Ser Ser Thr His Thr Pro Val  
 85 90 95  
 Pro Thr Pro Leu Val Gly Val Gly Tyr Ile Asn Gly Ser Gln Ser Gly  
 100 105 110  
 Tyr Tyr Asp Thr Gln Arg Glu Ser Leu His Leu Ser Gln Leu Leu Gly  
 115 120 125  
 Ser Arg Arg Val Glu Val Val Tyr Asn Gln Gly Asn Phe Met Glu Ala  
 130 135 140  
 Ser Leu Leu Asn Leu Cys Pro Arg Arg Pro Arg Arg Asp Pro Ser Pro  
 145 150 155 160  
 Ile Ser Leu Ala Leu Leu Glu Leu Trp Glu Ala Phe Phe Leu Glu His  
 165 170 175  
 Pro Pro Gly Ser Thr Phe Asn Pro Ile Phe Phe Trp  
 180 185

<210> 884  
 <211> 412  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 884  
 Asn Thr Pro Gln Val Ala Leu Leu Ile Gln Tyr Phe Phe Gly Asn Gly  
 1 5 10 15

Ala Phe Tyr Val Arg Glu Ala Leu Arg Leu Thr Pro His Ala Gln Asn  
 20 25 30  
 Ile Val Leu Val Gly Ile Cys Pro Ser Leu Tyr Pro Glu His Pro Arg  
 35 40 45  
 Ser Phe Tyr Tyr Arg Val Ser Gly Asp Ile Gly Ser Arg Phe Asp Asp  
 50 55 60  
 Arg Gly Phe Val Asn Ser Gly Val Glu Thr Leu Pro Tyr Ser Ser Gly  
 65 70 75 80  
 Ser Phe Gly Ile Phe Trp Ile Ser Phe Thr Asp Pro Thr Phe Asn Phe  
 85 90 95  
 Ala Ile Val Asn Thr Phe Met Arg Thr Ala Gly Ile Asn Glu Val Ser  
 100 105 110  
 Arg Pro Met Thr Gln Asp Thr Glu Thr Ser Leu Ile Glu Met Arg Asp  
 115 120 125  
 Leu Ser Glu Gln Gln Glu Ala Asn Asn Thr Asp Ser Leu Glu Gln Glu  
 130 135 140  
 Glu Ser Leu Met Gly Ile Val Gly His Thr Val Gly Gly Val Ser Met  
 145 150 155 160  
 Thr Val Thr Ser Ser Pro Asn Ile Phe Tyr Arg Ile Gln Thr Leu Leu  
 165 170 175  
 Gly Leu Pro Glu Thr Leu Ala Glu Ala Glu Glu Asn Pro Thr Phe Pro  
 180 185 190  
 Asn Ser Thr Ile Asp Ser Leu Ala Glu Ile Met Met Asn Leu Val Arg  
 195 200 205  
 Ile Ser Asp Ala Val Ser Ile Phe Trp Ile Phe Pro Ile Val Asp Thr  
 210 215 220  
 Thr Tyr Asn Gly Val Leu Leu Ala Val Cys Ile Gly Phe Phe Gly Ile  
 225 230 235 240  
 Asn Gly Ile Cys Ser Thr Phe Leu Met Leu Thr Asn Pro Arg Ser Arg  
 245 250 255  
 Arg Asp Arg Trp Arg Asn Leu Arg Ile Met Val Leu Cys Tyr Arg Ser  
 260 265 270  
 Leu Gly Ser Gly Met Asn Leu Phe Asp Leu Ser Asn Asn Val Arg Met  
 275 280 285  
 Ala Ala Arg Arg His Val Thr Ser Cys Thr Val Ala Leu Tyr Ala Met  
 290 295 300  
 Val Thr Leu Phe Gly Trp Thr Val Ala Ile Gln Asp Ala Leu Gln Tyr  
 305 310 315 320  
 Gly Phe Pro Ser Val Arg Asp Ala Phe Tyr Arg Tyr Cys Leu Arg His  
 325 330 335  
 Arg Tyr Cys Leu Thr Gln Arg Asn Glu Asp Ser Leu Gln Thr Thr Gly  
 340 345 350  
 Thr Arg Phe Gln Val Thr Arg Thr His Leu Glu Asp Gln Gln Met Val  
 355 360 365  
 Ala Ser Ile Leu Asn Leu Ser Val Phe Gly Leu Phe Phe Gly Phe Val  
 370 375 380  
 Gly Leu Met Thr Thr Phe Gly Gly Leu Glu Ile Ser Pro Ser Cys Arg  
 385 390 395 400  
 Trp Asp Ala Ala Asn Asn Arg Thr Val Gly Ile Phe  
 405 410

<210> 885

<211> 444

<212> PRT

<213> Chlamydia pneumoniae

<400> 885

Leu Tyr Glu Leu Phe Ile Lys Ser Gly Ile Phe Ile Val Met Thr Trp  
 1 5 10 15  
 Leu Ser Gly Leu Tyr Phe Ile Cys Ile Ala Ser Leu Ile Phe Cys Ala  
 20 25 30

Ile Gly Val Ile Leu Ala Gly Val Ile Leu Leu Ser Arg Lys Leu Phe  
 35 40 45  
 Ile Lys Val His Pro Cys Lys Leu Lys Ile Asn Asp Asn Glu Glu Leu  
 50 55 60  
 Thr Lys Thr Val Glu Ser Gly Gln Thr Leu Leu Val Ser Leu Leu Ser  
 65 70 75 80  
 Ser Gly Ile Pro Ile Pro Ser Pro Cys Gly Gly Lys Ala Thr Cys Lys  
 85 90 95  
 Gln Cys Lys Val Arg Val Val Lys Asn Ala Asp Glu Pro Leu Glu Thr  
 100 105 110  
 Asp Arg Ser Thr Phe Ser Lys Arg Gln Leu Glu Glu Gly Trp Arg Leu  
 115 120 125  
 Ser Cys Gln Cys Lys Val Gln His Asp Met Ser Leu Glu Ile Glu Glu  
 130 135 140  
 Arg Tyr Leu Asn Ala Ser Ser Trp Glu Gly Thr Val Ile Ser Asn Asp  
 145 150 155 160  
 Asn Val Ala Thr Phe Ile Lys Glu Leu Val Val Ala Val Asp Pro Asn  
 165 170 175  
 Lys Pro Ile Pro Phe Lys Pro Gly Gly Tyr Leu Gln Ile Thr Val Pro  
 180 185 190  
 Ser Tyr Lys Thr Asn Ser Ser Asp Trp Lys Gln Thr Met Ala Pro Glu  
 195 200 205  
 Tyr Tyr Ser Asp Trp Glu His Phe His Leu Phe Asp Gln Val Ile Asp  
 210 215 220  
 Asn Ser Gln Leu Pro Ala Asp Ser Ala Asn Lys Ala Tyr Ser Leu Ala  
 225 230 235 240  
 Ser Tyr Pro Ala Glu Leu Pro Thr Ile Lys Phe Asn Ile Arg Ile Ala  
 245 250 255  
 Thr Pro Pro Phe Ile Asn Gly Lys Pro Asn Ser Glu Ile Pro Trp Gly  
 260 265 270  
 Val Cys Ser Ser Tyr Val Phe Ser Leu Lys Pro Gly Asp Lys Ile Thr  
 275 280 285  
 Val Ser Gly Pro Tyr Gly Glu Ser Phe Met Lys Asp Asp Arg Pro  
 290 295 300  
 Leu Ile Phe Leu Ile Gly Gly Ala Gly Ser Ser Phe Gly Arg Ser His  
 305 310 315 320  
 Ile Leu Asp Leu Leu Asn Lys His Ser Lys Arg Glu Ile Asp Leu  
 325 330 335  
 Trp Tyr Gly Ala Arg Ser Leu Lys Glu Asn Ile Tyr Gln Glu Glu Tyr  
 340 345 350  
 Glu Asn Leu Glu Arg Gln Phe Pro Asn Phe His Tyr His Leu Val Leu  
 355 360 365  
 Ser Glu Pro Leu Pro Glu Asp Ile Ala Ala Gly Trp Asp Lys Asp Asp  
 370 375 380  
 Pro Thr Lys Thr Asn Phe Leu Phe Arg Ala Phe Asn Leu Gly Gln Leu  
 385 390 395 400  
 Ser Arg Leu Asp Asn Pro Glu Asp Tyr Leu Tyr Tyr Val Cys Gly Pro  
 405 410 415  
 Pro Leu His Asn Ser Ser Ile Leu Lys Leu Leu Gly Asp Tyr Gly Val  
 420 425 430  
 Glu Arg Ser Ser Ile Ile Leu Asp Asp Phe Gly Ser  
 435 440

<210> 886

<211> 120

<212> PRT

<213> Chlamydia pneumoniae

<400> 886

Gly Asp Cys Met Leu Ser Arg Ile Val Thr Cys Phe Leu Phe Leu Leu  
 1 5 10 15

Ser Ser Leu Pro Leu Phe Ala Glu Glu Glu Ala Ala Gln Ser Lys Asn  
 20 25 30  
 Thr Phe Val Gln Pro Ala Val Met Leu Ala Ile Ala Ile Leu Phe Phe  
 35 40 45  
 Tyr Phe Ile Leu Trp Arg Pro Glu Gln Lys Arg Arg Lys Ala Met Glu  
 50 55 60  
 Lys Arg Lys Asn Asp Leu Ala Lys Gly Asp Lys Val Thr Ala Met Gly  
 65 70 75 80  
 Ile Ile Gly Thr Val Asp Asp Ile Arg Glu His Thr Val Ile Leu Asn  
 85 90 95  
 Ile Ala Ser Gly Lys Val Glu Val Leu Lys Gly Ala Ile Ser Glu Ile  
 100 105 110  
 Leu Lys Pro Asn Asp Asn Lys Ser  
 115 120

<210> 887

<211> 406

<212> PRT

<213> Chlamydia pneumoniae

<400> 887

Ala Ser Ile Leu Thr Met Ser Thr Met Gln Asn Cys Pro His Phe Gly  
 1 5 10 15  
 Val Cys Gly Gly Cys Ser Phe Pro Gln Ser Asn Tyr Ser Asp Ser Leu  
 20 25 30  
 Lys Lys Lys Glu Glu Leu Leu His Gln Leu Phe Ala Pro Leu Val Pro  
 35 40 45  
 Ser Asp Met Ile Ala Pro Ile Ile Pro Cys Ser Pro Ser Leu Arg Gly  
 50 55 60  
 Arg Asn Lys Met Glu Phe Ser Phe Phe Gln Thr Tyr Glu Gly Glu Lys  
 65 70 75 80  
 Ser Leu Gly Phe Ile Ser Ser Thr Lys Pro Lys Lys Gly Ile Pro Val  
 85 90 95  
 Thr Thr Cys Leu Leu Ile His Glu Gln Thr Met Asp Ile Leu Lys Leu  
 100 105 110  
 Thr Arg Glu Trp Trp Asp Lys His Pro Glu Leu Met Ala Tyr Phe Pro  
 115 120 125  
 Pro Lys Asn Lys Gly Ser Leu Cys Thr Leu Thr Val Arg Thr Gly Ser  
 130 135 140  
 Pro Gln Gln Asn Phe Met Val Ile Leu Thr Thr Ser Gly Thr Pro Glu  
 145 150 155 160  
 Tyr Arg Val Asn Glu Ala Cys Ile Asp Glu Trp Lys Glu Ile Leu Leu  
 165 170 175  
 Ser Ser Ser Leu Asn Ile Ala Ser Ile Tyr Trp Glu Glu Lys Val Ala  
 180 185 190  
 Ala Arg Gly Ile Ser Thr Tyr Tyr Glu Thr Lys Leu Leu Tyr Gly Ala  
 195 200 205  
 Pro Ser Ile Gln Gln Lys Leu Ser Leu Pro Ser Asp Gly Asn Ser Ala  
 210 215 220  
 Ser Phe Ser Leu Arg Pro Arg Ser Phe Phe Gln Pro Gln Ile Thr Gln  
 225 230 235 240  
 Ala Ala Lys Ile Ile Glu Thr Ala Lys Glu Phe Ile Asn Pro Glu Gly  
 245 250 255  
 Ser Glu Thr Leu Leu Asp Leu Tyr Cys Gly Ala Gly Thr Ile Gly Ile  
 260 265 270  
 Met Leu Ser Pro Tyr Val Lys Asn Val Ile Gly Val Glu Ile Ile Pro  
 275 280 285  
 Asp Ala Val Ala Ser Ala Gln Glu Asn Ile Lys Ala Asn Asn Lys Glu  
 290 295 300  
 Asp Cys Val Glu Val Tyr Leu Glu Asp Ala Lys Ala Phe Cys Lys Arg  
 305 310 315 320

Asn Glu Asn Cys Lys Ala Pro Asp Val Ile Ile Ile Asp Pro Pro Arg  
                   325                                  330                  335  
 Cys Gly Met Gln Ser Lys Val Leu Lys Tyr Ile Leu Arg Ile Gly Ser  
                   340                                  345                  350  
 Pro Lys Ile Val Tyr Ile Ser Cys Asn Pro Lys Thr Gln Phe Gln Glu  
                   355                                  360                  365  
 Cys Ala Asp Leu Ile Ser Gly Gly Tyr Arg Ile Lys Lys Met Gln Pro  
                   370                                  375                  380  
 Ile Asp Gln Phe Pro Tyr Ser Thr His Leu Glu Asn Ile Ile Leu Leu  
 385                                  390                                  395                                  400  
 Glu Arg Glu Ile Asp Pro  
                                   405

<210> 888

<211> 127

<212> PRT

<213> Chlamydia pneumoniae

                  <400> 888  
 Arg Thr Leu Phe Met Ala Leu Lys Asp Thr Ala Lys Lys Met Lys Asp  
   1                                  5                                  10                                  15  
 Leu Leu Asp Ser Ile Gln His Asp Leu Ala Lys Ala Glu Lys Gly Asn  
                   20                                  25                                  30  
 Lys Ala Ala Gln Arg Val Arg Thr Asp Ser Ile Lys Leu Glu Lys  
                   35                                  40                                  45  
 Val Ala Lys Leu Tyr Arg Lys Glu Ser Ile Lys Ala Glu Lys Ser Gly  
                   50                                  55                                  60  
 Leu Leu Lys Arg Lys Pro Ser Thr Lys Ala Pro Ala Lys Val Lys Lys  
 65                                  70                                  75                                  80  
 Thr Ala Glu Lys Lys Ala Pro Lys Lys Ser Ser Ala Ala Ala Lys  
                   85                                  90                                  95  
 Thr Ser Lys Ala Val Lys Ala Ser Lys Pro Ala Ser Lys Lys Thr Ala  
                   100                                  105                                  110  
 Ala Lys Lys Val Lys Lys Pro Ser Lys Ala Arg Gly Phe Arg Lys  
                   115                                  120                                  125

<210> 889

<211> 822

<212> PRT

<213> Chlamydia pneumoniae

                  <400> 889  
 Met Lys Lys Leu Tyr His Pro Thr Leu Phe Leu Arg Pro Leu Ile Arg  
   1                                  5                                  10                                  15  
 Leu Ser Leu Ile Phe Ala Leu Ser Leu Thr Leu Ile Ser Gly Asn Phe  
                   20                                  25                                  30  
 Pro Gln Gln Lys Ser Phe Gly His Cys Cys Ala Asp Met His Ser Ala  
                   35                                  40                                  45  
 Leu Ile Ser Gly Lys Asn Cys Glu Glu Leu Phe Ala Asp Phe Ile Glu  
                   50                                  55                                  60  
 Arg Val Leu Ala Asp Arg Glu Thr Leu Thr Ala Arg Asp Trp Gly Thr  
 65                                  70                                  75                                  80  
 Val Val Val Leu Val Arg Glu Tyr Leu Leu Lys Cys Ile Arg Lys Gly  
                   85                                  90                                  95  
 Asp Cys Asp Tyr Gly Val Lys Ile Leu Gln Lys Leu Leu Ala Leu Arg  
                   100                                  105                                  110  
 Leu Pro Lys Asp Ala Arg Lys Asp Leu Gln Ile Leu Trp His Arg Leu  
                   115                                  120                                  125  
 Asn Pro Glu Gln Ala Pro Leu Arg Asp Val Val Asp Gln Leu Phe Thr  
                   130                                  135                                  140

Ile Gly Cys His Glu Ser Leu Gln Asp His Leu Leu Phe Glu Leu Tyr  
 145 150 155 160  
 Thr Val Thr Leu His Ser Gly Tyr Glu Asn Arg Lys Gln Asp Met Leu  
 165 170 175  
 Leu Ala Lys Glu Gln Gly Asp Tyr Lys Lys Ala Ile Glu Leu Ala Lys  
 180 185 190  
 Glu Leu Val Ala Ala Leu Glu Lys Gly Ser Cys Ser Pro His Pro Glu  
 195 200 205  
 Ile Val Gln Ile Glu Lys Thr Phe Leu Gln Lys Thr Leu Leu Ala Leu  
 210 215 220  
 Gln Ile Lys Val Ala Gln Glu Ala Gln Glu Ser Cys Asp Ala Leu Leu  
 225 230 235 240  
 Thr Pro Tyr Cys Leu Ser Glu Ile Ala Tyr Thr Glu Ala Met Asp Ala  
 245 250 255  
 Leu Val Leu Arg Ile Ala Arg Gly Glu Val Ser Arg Thr Asn Glu Val  
 260 265 270  
 --- Asp Ser Val Leu Leu Ser His Ala Leu Gln His Leu Pro Phe Ala Arg ---  
 275 280 285  
 Glu Lys Ala Ile Pro Glu Leu Glu Val Leu Ile Asp His Gly Ala Tyr  
 290 295 300  
 Leu Glu Ser Thr Leu Leu Tyr Tyr Ala Tyr Phe Ser Leu Leu Glu Leu  
 305 310 315 320  
 Tyr His Gln Asn Lys Asp Phe Ala Ser Leu Glu Arg Leu Leu Glu Lys  
 325 330 335  
 Gly Asp Ala Val Phe Val Pro Glu His Pro Tyr Phe Pro Glu Tyr Gly  
 340 345 350  
 Phe Phe Leu Gly Ala Tyr Phe Tyr Ala Lys Gly Lys Tyr Glu Ser Ala  
 355 360 365  
 Glu Lys Val Phe Leu Gln Ile Asp Pro Ala Val Lys Leu Gly Ala  
 370 375 380  
 Thr Phe Ala Arg Ala Tyr Glu Tyr Leu Gly Cys Ile Ala Tyr Val Gln  
 385 390 395 400  
 Asn His Tyr Glu Lys Ala Glu Glu Tyr Phe Leu Arg Ala Tyr Lys Ser  
 405 410 415  
 Trp Gly Arg Glu Glu Ser Gly Ile Gly Leu Phe Leu Ala Tyr Ala Val  
 420 425 430  
 Gln Lys Lys Lys Thr Ala Cys Glu Asp Met Leu Tyr His Pro Lys Phe  
 435 440 445  
 Ser Phe Thr Tyr Arg His Leu Leu Asp Ser Leu Cys Ser Leu Ser Tyr  
 450 455 460  
 Pro His Gly Glu Asn Lys Gly Ser Ser Ala Ile Gln Arg Val His Arg  
 465 470 475 480  
 Ala Val Pro Glu Leu Ser Glu Ile Tyr Ser Arg Cys Ile Tyr Asp Met  
 485 490 495  
 Ile Lys Tyr Arg Asn Val Thr Tyr Thr His Pro Ile Ile Glu Leu Ala  
 500 505 510  
 Tyr Asn Gln Val Arg Asn Leu Glu Lys Arg Asn Leu Glu Glu Ile Cys  
 515 520 525  
 Arg Asp Ala Gln Asp Pro Glu Tyr Asp Lys Ala Leu Ala Phe Trp Gly  
 530 535 540  
 Ala Leu Gln Ser Gly Ala Ser Val Pro Arg Ser Leu Ile Glu Ser Ser  
 545 550 555 560  
 Asp Val Asp Glu Ala Arg Ile Thr Ile Arg Cys Tyr Glu Ala Leu Tyr  
 565 570 575  
 Phe His Asn Pro Asp Ala Ile Ala Met Leu Pro Gln Ala Phe Ser Glu  
 580 585 590  
 Glu Cys Asn Ser Trp Gln Thr Ala Leu Arg Leu Val Trp Thr Leu Val  
 595 600 605  
 Arg Pro Lys Gly Ala Pro Asn His Ala Lys Tyr Trp Asp His Leu Val  
 610 615 620

Leu Arg Pro His Gly Asp Ser Leu Tyr Phe Phe Gly Tyr Asp Leu Gln  
 625 630 635 640  
 Glu Tyr Leu Ile Gly Lys Glu Asp Ala Leu Lys His Leu Ser Val Phe  
 645 650 655  
 Ala Glu Leu Phe Pro Lys Ser Ser Leu Leu Ser Leu Val Tyr Tyr Leu  
 660 665 670  
 Gln Gly Tyr Ser Glu Ser Ser Ala Leu Arg Lys Val Gly Trp Phe Val  
 675 680 685  
 Lys Ala Leu Glu Glu Phe Thr Glu Ile Ser Trp Ser Gly Glu His Met  
 690 695 700  
 Lys Thr Trp Ala Tyr Ile Tyr Tyr Met Val Lys Leu Asp Leu Ala Asp  
 705 710 715 720  
 Thr Tyr Ile Ser Leu Gly Asn Phe Ser Gln Ala Val His Ile Leu Glu  
 725 730 735  
 Glu Val Lys Glu Asp Trp Gln Val Ala Ser His Pro Lys Leu His Phe  
 740 745 750  
 Leu Lys Gly Glu Asp Cys Tyr Leu Ala Met Glu Leu Arg Trp Val Glu  
 755 760 765  
 Gly Leu Ala Tyr Ala Tyr Phe Gln Leu His Glu Thr Ala His Leu Ser  
 770 775 780  
 Asn His Leu Leu Glu His Val Glu Lys Asn Leu Ile Ser Pro Arg Ser  
 785 790 795 800  
 Tyr Arg Asp Tyr Tyr Gly Glu Ser Leu Gln Arg Thr Leu Gly Leu Cys  
 805 810 815  
 Gln Arg Phe Leu Gly Val  
 820

<210> 890  
 <211> 441  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 890  
 Ala Glu Arg Arg Phe Cys Val Lys Arg Ala Ile Ile Ile Gly Ala Gly  
 1 5 10 15  
 Ile Ser Gly Leu Ala Ala Gly Trp Trp Leu His Lys Lys Phe Pro Gln  
 20 25 30  
 Ala Glu Ile Leu Val Leu Asp Lys Glu Ala Tyr Ala Gly Gly Phe Val  
 35 40 45  
 Arg Thr Glu Ser Pro Gln Gly Phe Ser Phe Asp Leu Gly Pro Lys Gly  
 50 55 60  
 Phe Leu Thr Arg Gly Asp Gly Glu Tyr Thr Leu Lys Leu Ile His Glu  
 65 70 75 80  
 Leu Gly Leu Gln Asn Ser Leu Ile Phe Ser Asp Arg Ala Ala Lys Asn  
 85 90 95  
 Arg Phe Val Tyr Tyr Arg Gly Lys Ala His Lys Ile Ser Thr Trp Thr  
 100 105 110  
 Leu Leu Arg Lys Gly Leu Leu Pro Ser Leu Ile Lys Asp Phe Arg Ala  
 115 120 125  
 Pro Cys Tyr Thr Gln Asp Ser Ser Val Gln Asp Phe Leu Lys Arg His  
 130 135 140  
 Ser Ser Gln Asn Phe Thr Ser Tyr Ile Leu Asp Pro Leu Ile Thr Ala  
 145 150 155 160  
 Ile Arg Ala Gly His Ser Ser Ile Leu Ser Thr His Met Ala Phe Pro  
 165 170 175  
 Glu Leu Ala Lys Arg Glu Ala Ser Ser Gly Ser Leu Leu Arg Ser Tyr  
 180 185 190  
 Leu Lys Asn Arg Ser Pro Lys Lys Ser Lys Thr Asp Arg Tyr Leu Ala  
 195 200 205  
 Ser Leu Ser Pro Ser Met Gly Thr Leu Ile Thr Thr Ile Gln Glu Lys  
 210 215 220

Leu Pro Ala Thr Trp Lys Phe Ser Thr Ser Val Thr His Ile Asp Cys  
 225 230 235 240  
 Ser Pro Lys Glu Ala Cys Val Thr Thr Pro Ser Glu Thr Phe Phe Ala  
 245 250 255  
 Asp Met Val Ile Tyr Thr Gly Pro Leu Gln Gln Leu Pro Val Leu Leu  
 260 265 270  
 Pro Asn Tyr Gly Ile Glu Asn Leu Ser Lys Arg Val Leu Pro Trp Asn  
 275 280 285  
 Leu Ser Ser Ile Ser Leu Gly Trp His His Ala Asn Phe Ser Leu Pro  
 290 295 300  
 Lys Gly Tyr Gly Met Leu Phe Ala Asp Glu Leu Pro Leu Leu Gly Ile  
 305 310 315 320  
 Val Trp Asn Ser Gln Ile Phe Pro Gln Ala Thr Pro Gly Lys Thr Val  
 325 330 335  
 Leu Ser Leu Leu Ile Glu Gly Lys Trp Arg Glu Ser Glu Ala His Ala  
 340 345 350  
 Phe Ala Ile Ala Ala Leu Ser Glu Tyr Leu Asn Ile Asn Gln Lys Pro  
 355 360 365  
 Asp Ala Phe Ala Leu Phe Ser Ser Gln Asp Gly Met Pro Gln His Ala  
 370 375 380  
 Val Gly Phe Leu Glu Arg Lys Glu Arg Ile Leu Pro His Leu Pro Gly  
 385 390 395 400  
 Asn Leu Lys Ile Val Gly Gln Asn Ile Ala Gly Pro Gly Leu Asn Arg  
 405 410 415  
 Cys Ile Ala Ser Ala Tyr His Ala Ile Cys Asp Leu His Thr Glu Glu  
 420 425 430  
 Thr Leu Ala Gln Pro Gln Ser Ser Leu  
 435 440

<210> 891

<211> 460

<212> PRT

<213> Chlamydia pneumoniae

<400> 891

Phe Leu Met Phe Asn Val Asn Phe Lys Phe Leu Glu Gly Leu His Gln  
 1 5 10 15  
 Pro Ala Pro Arg Tyr Thr Ser Tyr Pro Thr Ala Leu Glu Trp Glu Pro  
 20 25 30  
 Ser Asp Ala Ala Pro Ala Leu Leu Ala Phe Gln Arg Ile Arg Glu Asn  
 35 40 45  
 Pro Gln Pro Leu Ser Leu Tyr Phe His Ile Pro Phe Cys Gln Ser Met  
 50 55 60  
 Cys Leu Tyr Cys Gly Cys Ser Val Val Leu Asn Arg Arg Glu Asp Ile  
 65 70 75 80  
 Val Glu Ala Tyr Ile Asn Thr Leu Ile Gln Glu Met Lys Leu Val Val  
 85 90 95  
 Glu Thr Ile Gly Phe Arg Pro Gln Val Ser Arg Ile His Phe Gly Gly  
 100 105 110  
 Gly Thr Pro Ser Arg Leu Ser Arg Glu Leu Phe Thr Leu Leu Phe Asp  
 115 120 125  
 His Ile His Lys Leu Phe Asp Leu Ser His Ala Glu Glu Ile Ala Ile  
 130 135 140  
 Glu Val Asp Pro Arg Ser Leu Arg Asn Asp Met Glu Lys Ala Asp Phe  
 145 150 155 160  
 Phe Gln Asn Val Gly Phe Asn Arg Val Ser Leu Gly Val Gln Asp Thr  
 165 170 175  
 Gln Ala Asp Val Gln Glu Ala Val Arg Arg Arg Gln Ser His Glu Glu  
 180 185 190  
 Ser Leu Lys Ala Tyr Glu Lys Phe Lys Glu Leu Ala Phe Gln Ser Ile  
 195 200 205



Asn Ile Asp Leu Ile Tyr Gly Leu Pro Lys Gln Thr Lys Glu Ser Phe  
 210 215 220  
 Ser Lys Thr Ile Gln Asp Ile Leu Ala Met Tyr Pro Asp Arg Leu Ala  
 225 230 235 240  
 Leu Phe Ser Phe Ala Ser Val Pro Trp Ile Lys Pro His Gln Lys Ala  
 245 250 255  
 Met Lys Ala Ser Asp Met Pro Ser Met Glu Glu Lys Phe Ala Ile Tyr  
 260 265 270  
 Ser Gln Ser Arg His Leu Leu Thr Lys Ala Gly Tyr Gln Ala Ile Gly  
 275 280 285  
 Met Asp His Phe Ser Leu Pro His Asp Pro Leu Thr Leu Ala Phe Lys  
 290 295 300  
 Asn Lys Thr Leu Ile Arg Asn Phe Gln Gly Tyr Ser Leu Pro Pro Glu  
 305 310 315 320  
 Glu Asp Leu Leu Gly Leu Gly Met Thr Ser Thr Ser Phe Ile Arg Gly  
 325 330 335  
 Ile Tyr Leu Gln Asn Ala Lys Thr Leu Glu Glu Tyr His Asn Thr Val  
 340 345 350  
 Leu Arg Gly Thr Phe Ala Thr Val Lys Ser Lys Ile Leu Thr Glu Asp  
 355 360 365  
 Asp Arg Ile Arg Lys Trp Ala Ile His Lys Leu Met Cys Thr Phe Thr  
 370 375 380  
 Ile Asn Lys Glu Glu Phe Asn Leu Phe Gly Tyr Glu Phe Asp Thr  
 385 390 395 400  
 Tyr Phe Ile Glu Ser Arg Asp Arg Leu Ile Ser Met Glu Thr Thr Gly  
 405 410 415  
 Leu Ile His Asn Ser Pro Gly Ser Leu Lys Val Thr Pro Leu Gly Glu  
 420 425 430  
 Leu Phe Val Arg Val Ile Ala Thr Ala Phe Asp His Tyr Phe Leu Asn  
 435 440 445  
 Lys Val Ser Lys Lys Glu Cys Phe Ser Ala Ser Ile  
 450 455 460

<210> 892

<211> 337

<212> PRT

<213> Chlamydia pneumoniae

<400> 892

Ser Thr Leu His Asn Trp Asp Ser Met Ser Ala Phe Phe Asp Leu Leu  
 1 5 10 15  
 Lys Ser Gln Thr Ala Ser His Pro Pro Ile Trp Leu Leu Arg Gln Val  
 20 25 30  
 Gly Arg Tyr Met Pro Pro Tyr Gln Glu Leu Lys Gly Ser Gln Ser Leu  
 35 40 45  
 Lys Thr Phe Phe His Asn Thr Glu Ala Ile Val Glu Ala Thr Leu Leu  
 50 55 60  
 Gly Pro Ser Leu Leu His Val Asp Ala Ala Ile Leu Phe Ala Asp Ile  
 65 70 75 80  
 Leu Ser Ile Leu Asp Gly Phe Ala Val Thr Tyr Asp Phe Ala Pro Gly  
 85 90 95  
 Pro Arg Ile Gln Phe Ser Pro Glu Gln Pro Phe Thr Phe Thr Ser Asp  
 100 105 110  
 Pro Gln Thr Ile Phe Ser Tyr Leu Leu Asp Ala Ile Arg Thr Leu Lys  
 115 120 125  
 Gln Lys Leu Pro Val Pro Leu Ile Val Phe Ala Ala Ser Pro Phe Thr  
 130 135 140  
 Leu Ala Cys Tyr Leu Ile Asp Gly Gly Ala Ser Lys Asp Phe Ser Lys  
 145 150 155 160  
 Thr Met Ser Phe Leu Tyr Val Tyr Pro Glu Lys Phe Asp Gln Leu Ile  
 165 170 175

Ser	Thr	Ile	Ile	Glu	Gly	Thr	Ala	Ile	Tyr	Leu	Lys	Thr	Gln	Met	Asp
		180						185					190		
Ala	Gly	Ala	Ala	Ala	Val	Gln	Leu	Phe	Glu	Ser	Ser	Ser	Leu	Arg	Leu
		195					200					205			
Pro	Ser	Ala	Leu	Phe	Thr	Arg	Tyr	Val	Thr	Glu	Pro	Asn	Arg	Arg	Leu
	210				215						220				
Ile	Ala	Lys	Leu	Lys	Glu	Gln	Ala	Ile	Pro	Val	Ser	Leu	Phe	Cys	Arg
225				230						235				240	
Cys	Phe	Glu	Glu	Asn	Phe	Tyr	Thr	Leu	Gln	Ala	Thr	Gln	Ala	Asp	Thr
			245						250					255	
Leu	His	Pro	Asp	Tyr	His	Val	Asp	Leu	His	Arg	Ile	Gln	Lys	Asn	Leu
		260					265					270			
Met	Leu	Ser	Leu	Gln	Gly	Asn	Leu	Asp	Pro	Ala	Ile	Phe	Leu	Leu	Pro
		275					280					285			
Gln	Glu	Lys	Leu	Leu	His	Tyr	Val	Glu	Ala	Phe	Leu	Val	Pro	Leu	Arg
	290					295					300				
Thr	Tyr	Pro	Asn	Phe	Ile	Phe	Asn	Ser	Gly	His	Gly	Ile	Leu	Pro	Glu
305				310						315					320
Thr	Pro	Leu	Glu	Asn	Val	Gln	Leu	Val	Val	Ser	Tyr	Val	Gln	Arg	Gln
				325					330					335	
Leu															

<210> 893  
 <211> 1087  
 <212> PRT  
 <213> Chlamydia pneumoniae

Asn	Phe	Met	Ala	Met	Asp	Phe	Asn	Pro	Val	Asn	Leu	Asp	Phe	Ser	Ile
1				5					10					15	
Ser	Lys	Glu	Phe	Lys	Glu	Glu	Thr	Leu	Pro	Leu	Leu	Leu	Glu	Asn	Ile
		20						25				30			
His	Pro	Gly	Ala	Thr	Ala	Phe	Leu	Ala	Ala	Lys	Met	Phe	His	Asp	Cys
	35					40						45			
Arg	Ala	Ser	Val	Ile	Met	Ile	Thr	Thr	Pro	Ala	Arg	Leu	Asp	Asp	Leu
	50					55					60				
Phe	Glu	Asn	Leu	Arg	Thr	Phe	Leu	Asp	Gln	Ala	Pro	Val	Glu	Phe	Pro
65				70					75					80	
Ser	Ser	Glu	Ile	Asp	Leu	Ser	Pro	Lys	Leu	Val	Asn	Ile	Asp	Ala	Val
			85					90					95		
Gly	Lys	Arg	Asp	His	Leu	Leu	Tyr	Ser	Leu	Asn	Gln	His	Arg	Ala	Pro
		100					105					110			
Ile	Phe	Cys	Val	Thr	Thr	Leu	Lys	Ala	Leu	Leu	Glu	Lys	Thr	Arg	Ser
	115					120						125			
Pro	Gln	Ala	Thr	Ser	Gln	Gln	His	Leu	Asp	Leu	Ala	Val	Gly	Asp	Val
	130					135					140				
Leu	Asp	Pro	Glu	Ala	Thr	Thr	Glu	Leu	Cys	Lys	Ser	Leu	Gly	Tyr	Ser
145				150						155				160	
Gln	Val	Met	Leu	Thr	Ser	Glu	Lys	Gly	Glu	Phe	Ser	Cys	Arg	Gly	Gly
			165					170						175	
Ile	Val	Asp	Ile	Phe	Pro	Leu	Ser	Ser	Pro	Glu	Pro	Phe	Arg	Ile	Glu
	180						185						190		
Phe	Trp	Gly	Glu	Lys	Ile	Ile	Ser	Ile	Arg	Ser	Tyr	Asn	Pro	Ser	Asp
	195					200						205			
Gln	Leu	Ser	Thr	Gly	Lys	Val	Ser	Lys	Ile	Ser	Ile	Ser	Pro	Ala	Tyr
	210					215					220				
Thr	Glu	Glu	Ala	Ser	Gly	Asn	Tyr	Ser	His	Ser	Leu	Leu	Asp	Tyr	
225				230					235					240	
Phe	Ser	Thr	Pro	Pro	Leu	Tyr	Leu	Phe	Asp	Asn	Leu	Glu	Ile	Leu	Glu
				245					250					255	

Asp	Asp	Phe	Ala	Asp	Ile	Ser	Gly	Thr	Leu	Ser	Ser	Leu	Pro	Asp	Arg	260	265	270
Phe	Phe	Ser	Ile	Gly	Thr	Leu	Tyr	Asp	Arg	Ile	Ser	Thr	Ser	Asn	Gln	275	280	285
Val	Tyr	Phe	Ser	Glu	Thr	Pro	Phe	Pro	Asn	Val	Lys	Asn	Leu	Lys	Glu	290	295	300
Asn	Arg	Val	Ile	Ile	Glu	Ala	Phe	His	Arg	Asn	Met	Glu	Ala	Ser	Arg	305	310	315
Gln	Ala	Ile	Pro	Ile	Leu	Tyr	Pro	Glu	Gln	Ile	Ile	Gln	Asn	Asp	Glu	325	330	335
Asn	Pro	Leu	Leu	Ala	Phe	Leu	Gln	His	Leu	Gln	Glu	Tyr	Met	Pro	Pro	340	345	350
His	Gly	Lys	Pro	Leu	Lys	Leu	Ala	Ile	Tyr	Ser	Thr	Lys	Thr	Lys	Ser	355	360	365
Leu	Lys	Glu	Ala	Arg	Ala	Leu	Ala	Glu	Thr	Val	Ala	Arg	Gly	Asp	Val	370	375	380
Glu	Ile	Tyr	Glu	Lys	Thr	Gly	Asn	Leu	Thr	Ser	Ser	Phe	Ala	Leu	Val	385	390	395
Asn	Glu	Ala	Phe	Ala	Ala	Ile	Ser	Leu	Ser	Glu	Phe	Ala	Ser	Thr	Lys	405	410	415
Val	Leu	Arg	Arg	Gln	Lys	Gln	Arg	Thr	His	Phe	Ser	Val	Thr	Thr	Glu	420	425	430
Glu	Val	Phe	Val	Pro	Ile	Pro	Gly	Glu	Thr	Val	Val	His	Ile	His	Asn	435	440	445
Gly	Ile	Gly	Lys	Phe	Leu	Gly	Ile	Glu	Lys	Lys	Pro	Asn	His	Leu	Asn	450	455	460
Ile	Glu	Thr	Asp	Tyr	Leu	Val	Leu	Glu	Tyr	Ala	Asp	Lys	Ala	Arg	Leu	465	470	475
Tyr	Val	Pro	Ser	Asn	Gln	Ala	Tyr	Leu	Ile	Ser	Arg	Tyr	Val	Gly	Thr	485	490	495
Ser	Asp	Lys	Ala	Ala	Asp	Leu	His	His	Leu	Asn	Ser	Ser	Lys	Trp	Lys	500	505	510
Arg	Ser	Arg	Asp	Leu	Thr	Glu	Lys	Ser	Leu	Ile	Val	Tyr	Ala	Glu	Lys	515	520	525
Leu	Leu	Gln	Leu	Glu	Ala	Gln	Arg	Ser	Thr	Thr	Pro	Ala	Phe	Val	Tyr	530	535	540
Pro	Pro	His	Gly	Glu	Ser	Val	Ile	Lys	Phe	Ala	Glu	Thr	Phe	Pro	Tyr	545	550	555
Glu	Glu	Thr	Pro	Asp	Gln	Leu	Lys	Thr	Ile	Asp	Gln	Ile	Tyr	Asn	Asp	565	570	575
Met	Met	Ser	Pro	Lys	Leu	Met	Asp	Arg	Leu	Ile	Cys	Gly	Asp	Ala	Gly	580	585	590
Phe	Gly	Lys	Thr	Glu	Val	Ile	Met	Arg	Ala	Ala	Val	Lys	Ala	Val	Cys	595	600	605
Asp	Gly	His	Arg	Gln	Val	Ile	Val	Met	Val	Pro	Thr	Thr	Ile	Leu	Ala	610	615	620
Thr	Gln	His	Tyr	Glu	Thr	Phe	Lys	Glu	Arg	Met	Ala	Gly	Leu	Pro	Ile	625	630	635
Glu	Ile	Ala	Val	Leu	Ser	Arg	Phe	Ser	Gln	Ala	Lys	Val	Gln	Lys	Leu	645	650	655
Ile	Cys	Glu	Gln	Val	Ala	Ser	Gly	Gln	Ile	Asp	Ile	Ile	Ile	Gly	Thr	660	665	670
His	Lys	Leu	Ile	Asn	Lys	Ser	Leu	Glu	Phe	Lys	Asn	Pro	Gly	Leu	Leu	675	680	685
Ile	Ile	Asp	Glu	Glu	Gln	Arg	Phe	Gly	Val	Lys	Val	Lys	Asp	Asn	Leu	690	695	700
Lys	Glu	Arg	Tyr	Pro	Met	Ile	Asp	Cys	Leu	Thr	Val	Ser	Ala	Thr	Pro	705	710	715
Ile	Pro	Arg	Thr	Leu	His	Met	Ser	Leu	Ser	Gly	Ala	Arg	Asp	Leu	Ser	725	730	735

Val Ile Ala Met Pro Pro Leu Asp Arg Leu Pro Val Ser Thr Phe Val  
 740 745 750  
 Met Glu His Asn Thr Glu Thr Leu Thr Ala Ala Leu Arg His Glu Leu  
 755 760 765  
 Leu Arg Gly Gly Gln Ala Tyr Val Ile His Asn Arg Ile Glu Ser Ile  
 770 775 780  
 Tyr Thr Leu Ala Glu Thr Ile Arg Asn Leu Ile Pro Glu Ala Arg Ile  
 785 790 795 800  
 Gly Val Ala His Gly Gln Met Gly Ala Glu Asp Leu Ser Asn Ile Phe  
 805 810 815  
 Thr Lys Phe Lys Asn Gln Lys Thr Asp Ile Leu Val Ala Thr Ala Leu  
 820 825 830  
 Ile Glu Asn Gly Ile Asp Ile Pro Asn Ala Asn Thr Ile Leu Ile Asp  
 835 840 845  
 His Ala Asp Lys Phe Gly Met Ala Asp Leu Tyr Gln Met Lys Gly Arg  
 850 855 860  
 Val Gly Arg Trp Asn Lys Lys Ala Tyr Cys Tyr Phe Leu Val Pro His  
 865 870 875 880  
 Leu Asp Arg Leu Ser Gly Pro Ala Ala Lys Arg Leu Ala Ala Leu Asn  
 885 890 895  
 Lys Gln Glu Tyr Gly Gly Gly Met Lys Ile Ala Leu His Asp Leu Glu  
 900 905 910  
 Ile Arg Gly Ala Gly Asn Ile Leu Gly Thr Asp Gln Ser Gly His Ile  
 915 920 925  
 Gly Thr Ile Gly Phe Asn Leu Tyr Cys Lys Leu Leu Lys Lys Ala Val  
 930 935 940  
 Ser Ala Leu Lys Lys His Thr Ser Pro Leu Leu Phe Asn Asp Asp Val  
 945 950 955 960  
 Lys Ile Glu Phe Pro Tyr Asn Ser Arg Ile Pro Asp Thr Tyr Ile Glu  
 965 970 975  
 Thr Gly Ser Met Arg Ile Glu Phe Tyr Gln Lys Ile Gly Asn Ala Glu  
 980 985 990  
 Ser Ser Glu Glu Leu Thr Ala Ile Gln Glu Glu Met Arg Asp Arg Phe  
 995 1000 1005  
 Gly Pro Leu Pro Gln Glu Ile Cys Trp Leu Phe Ala Leu Ala Glu Ile  
 1010 1015 1020  
 Arg Leu Phe Ala Leu Gln His Gly Ile Ser Ser Ile Lys Gly Thr Ala  
 1025 1030 1035 1040  
 Asn Ala Leu Tyr Val Gln Lys Cys Leu Ser Lys Ser Glu Gln Thr Lys  
 1045 1050 1055  
 Lys Thr Leu Pro Tyr Ala Leu Ser Pro Thr Pro Glu Leu Leu Val Lys  
 1060 1065 1070  
 Glu Val Ile Glu Ser Ile Glu Arg Gly Phe Leu Ile Asn Ala Ser  
 1075 1080 1085

<210> 894

<211> 876

<212> PRT

<213> Chlamydia pneumoniae

<400> 894

Glu Phe Phe Phe Met Leu Ser Asn Thr Ile Arg Ser Asn Phe Leu Lys  
 1 5 10 15  
 Phe Tyr Ala Asn Arg His His Thr Ile Leu Pro Ser Ser Pro Val Phe  
 20 25 30  
 Pro His Asn Asp Pro Ser Ile Leu Phe Thr Asn Ala Gly Met Asn Gln  
 35 40 45  
 Phe Lys Asp Ile Phe Leu Asn Lys Glu Lys Val Ser Tyr Ser Arg Ala  
 50 55 60  
 Thr Thr Ser Gln Lys Cys Ile Arg Ala Gly Gly Lys His Asn Asp Leu  
 65 70 75 80

Asp Asn Val Gly His Thr Ser Arg His Leu Thr Phe Phe Glu Met Leu  
                             85                            90                            95  
 Gly Asn Phe Ser Phe Gly Asp Tyr Phe Lys Ala Glu Ala Ile Ala Phe  
                             100                            105                            110  
 Ala Trp Glu Val Ser Leu Ser Val Phe Asn Phe Asn Pro Glu Gly Ile  
                             115                            120                            125  
 Tyr Ala Thr Val His Glu Lys Asp Asp Glu Ala Phe Ala Leu Trp Glu  
                             130                            135                            140  
 Ala Tyr Leu Pro Thr Asp Arg Ile Phe Arg Leu Thr Asp Lys Asp Asn  
                             145                            150                            155                            160  
 Phe Trp Ser Met Ala Asn Thr Gly Pro Cys Gly Tyr Cys Ser Glu Leu  
                             165                            170                            175  
 Leu Phe Asp Arg Gly Pro Ser Phe Gly Asn Ala Ser Ser Pro Leu Asp  
                             180                            185                            190  
 Asp Thr Asp Gly Glu Arg Phe Leu Glu Tyr Trp Asn Leu Val Phe Met  
                             195                            200                            205  
 Glu Phe Asn Arg Thr Ser Glu Gly Ser Leu Leu Ala Leu Pro Asn Lys  
                             210                            215                            220  
 His Val Asp Thr Gly Ala Gly Leu Glu Arg Leu Val Ser Leu Ile Ala  
                             225                            230                            235                            240  
 Gly Thr His Thr Val Phe Glu Ala Asp Val Leu Arg Glu Leu Ile Ala  
                             245                            250                            255  
 Lys Thr Glu Gln Leu Ser Gly Lys Val Tyr His Pro Asp Asp Ser Gly  
                             260                            265                            270  
 Ala Ala Phe Arg Val Ile Ala Asp His Val Arg Ser Leu Ser Phe Ala  
                             275                            280                            285  
 Ile Ala Asp Gly Leu Leu Pro Gly Asn Thr Glu Arg Gly Tyr Val Leu  
                             290                            295                            300  
 Arg Lys Ile Leu Arg Arg Ser Val Asn Tyr Gly Arg Arg Leu Gly Phe  
                             305                            310                            315                            320  
 Arg Asn Pro Phe Leu Ala Glu Ile Val Pro Ser Leu Ala Asp Ala Met  
                             325                            330                            335  
 Gly Glu Ala Tyr Pro Glu Leu Lys Asn Ser Leu Ser Gln Ile Gln Lys  
                             340                            345                            350  
 Val Leu Thr Leu Glu Glu Glu Ser Phe Phe Lys Thr Leu Asp Arg Gly  
                             355                            360                            365  
 Gly Asn Leu Leu Gln Gln Val Leu Lys Ser Ser Ser Ser Ser Ser Cys  
                             370                            375                            380  
 Ile Ser Gly Glu Asp Ala Phe Lys Leu Lys Asp Thr Tyr Gly Met Pro  
                             385                            390                            395                            400  
 Ile Asp Glu Ile Ser Leu Leu Ala Lys Asp Tyr Asp Tyr Ser Val Asp  
                             405                            410                            415  
 Met Asp Thr Phe His Lys Leu Glu Gln Glu Ala Lys Glu Arg Ser Arg  
                             420                            425                            430  
 Lys Asn Val Val Gln Ser Gln Gly Thr Ser Glu Ser Ile Tyr Asn Glu  
                             435                            440                            445  
 Leu His Leu Thr Ser Glu Phe Ile Gly Tyr Asp His Leu Ser Cys Asp  
                             450                            455                            460  
 Thr Phe Ile Glu Ala Ile Ile Ser Lys Asp His Ile Val Ser Ser Leu  
                             465                            470                            475                            480  
 Gln Glu Lys Gln Glu Gly Ala Ile Val Leu Lys Val Ser Pro Phe Tyr  
                             485                            490                            495  
 Ala Glu Lys Gly Gly Gln Val Gly Asp Ser Gly Glu Ile Phe Cys Ser  
                             500                            505                            510  
 Glu Gly Thr Phe Ile Val Thr His Thr Thr Ser Pro Lys Ala Gly Leu  
                             515                            520                            525  
 Ile Val His His Gly Arg Ile Ser Gln Gly Ser Leu Thr Val Glu Ala  
                             530                            535                            540  
 Ala Val Thr Ala Gln Val Asn Arg Tyr Arg Arg Lys Arg Ile Ala Asn  
                             545                            550                            555                            560

Asn His Thr Ala Cys His Leu Leu His Lys Ala Leu Glu Ile Thr Leu  
 565 570 575  
 Gly Asp His Ile Arg Gln Ala Gly Ser Tyr Val Asp Asp Thr Lys Ile  
 580 585 590  
 Arg Leu Asp Phe Thr His Pro Gln Ala Ile Ser Pro Glu Asp Leu Leu  
 595 600 605  
 Cys Ile Glu Thr Leu Val Asn Glu Ser Ile Arg Glu Asn Glu Pro Val  
 610 615 620  
 Asp Ile Arg Glu Ala Leu Tyr Ser Asp Val Met Asn Ser Ser Glu Ile  
 625 630 635 640  
 Lys Gln Phe Phe Gly Asp Lys Tyr Ser Asp Val Val Arg Val Val Ser  
 645 650 655  
 Ala Gly His Ser His Glu Leu Cys Gly Gly Thr His Ala Glu Ala Thr  
 660 665 670  
 Gly Asp Ile Gly Phe Phe Arg Ile Thr Lys Glu His Ala Val Ala Met  
 675 680 685  
 Gly Ile Arg Arg Ile Glu Ala Val Thr Gly Glu Lys Ala Glu Ala Thr  
 690 695 700  
 Val His Gln Gln Ser Glu Val Leu Glu Glu Ile Ala Thr Leu Leu Gln  
 705 710 715 720  
 Val Pro Arg Asp Gln Ile Val Ser Arg Leu Thr Ala Thr Leu Asp Glu  
 725 730 735  
 Arg Lys Gln Gln Asp Lys Arg Leu Asn Glu Leu Glu Asn Ser Leu Ile  
 740 745 750  
 Gln Thr Lys Leu Asp Lys Leu Ile His Asn Cys His Gln Arg Gln Gly  
 755 760 765  
 Ile Thr Cys Leu Val His His Leu Ala Glu His Glu Asn His Arg Leu  
 770 775 780  
 Gln Gln Tyr Ala Gln Cys Leu His Gln Arg Ile Pro Glu Lys Leu Ile  
 785 790 795 800  
 Ser Leu Trp Thr Thr Glu Lys Asn Gly Lys Tyr Ile Val Leu Ser Arg  
 805 810 815  
 Val Ser Asp Asp Leu Ile Thr Gln Gly Val His Ala Gln Asp Leu Leu  
 820 825 830  
 Lys Ala Val Leu Thr Pro Cys Gly Gly Arg Trp Gly Gly Lys Asp Gln  
 835 840 845  
 Ser Ala Gln Gly Ser Ala Pro Ala Leu Pro Ala Thr Glu Val Leu Asn  
 850 855 860  
 Glu Thr Leu Trp Gln Trp Ile Ser Thr Gln Leu Ile  
 865 870 875

<210> 895

<211> 689

<212> PRT

<213> Chlamydia pneumoniae

<400> 895

Glu Phe Leu Ala Phe Cys Leu Gly Ile Ser Tyr Ser Cys Cys Phe Tyr  
 1 5 10 15  
 Ile Glu Gly Leu Gln Gly Leu Leu Met Ile Asn Lys Glu Leu Asp Ile  
 20 25 30  
 Gly Ile Leu Gly Lys Ile Ala Gly Ala Ile Lys Gln Ile Ser Ile Glu  
 35 40 45  
 Ser Ile Gln Lys Ala Ser Ser Gly His Pro Gly Leu Pro Leu Gly Cys  
 50 55 60  
 Ala Glu Leu Ala Ala Tyr Leu Tyr Gly Tyr Val Leu Arg Gln Asn Pro  
 65 70 75 80  
 Arg Asp Pro His Trp Ile Asn Arg Asp Arg Phe Val Leu Ser Ala Gly  
 85 90 95  
 His Gly Ser Ala Leu Leu Tyr Ser Cys Leu His Leu Ala Gly Phe Asp  
 100 105 110

Val	Ser	Leu	Glu	Asp	Leu	Gln	Glu	Phe	Arg	Gln	Leu	His	Ser	Arg	Thr		
		115					120					125					
Pro	Gly	His	Pro	Glu	Tyr	Gly	Glu	Thr	Val	Gly	Val	Glu	Ala	Thr	Thr		
	130					135					140						
Gly	Pro	Leu	Gly	Gln	Gly	Leu	Gly	Asn	Ala	Val	Gly	Met	Ala	Leu	Ser		
145					150					155					160		
Met	Lys	Met	Leu	Glu	Ser	Arg	Phe	Asn	Arg	Pro	Gly	His	Glu	Ile	Phe		
				165					170					175			
Asn	Gly	Lys	Ile	Tyr	Cys	Leu	Ala	Gly	Asp	Gly	Cys	Phe	Met	Glu	Gly		
		180						185					190				
Val	Ser	His	Glu	Val	Cys	Ser	Phe	Ala	Gly	Ser	Leu	Asn	Leu	Asn	Asn		
		195					200					205					
Leu	Val	Val	Ile	Tyr	Asp	Tyr	Asn	Asn	Val	Val	Leu	Asp	Gly	Tyr	Leu		
	210					215					220						
Asn	Glu	Ile	Ser	Val	Glu	Asp	Thr	Lys	Lys	Arg	Phe	Glu	Ala	Tyr	Gly		
225					230					235					240		
Trp	Asp	Val	Tyr	Glu	Ile	Asp	Gly	Tyr	Asp	Phe	Thr	His	Ile	His	Glu		
			245						250					255			
Thr	Phe	Ser	Ser	Ile	Lys	Arg	Gly	Gln	Glu	Arg	Pro	Val	Leu	Val	Ile		
			260					265					270				
Ala	His	Thr	Ile	Ile	Gly	His	Gly	Ser	Pro	Lys	Glu	Gly	Thr	Asn	Lys		
		275					280					285					
Ala	His	Gly	Ser	Pro	Leu	Gly	Val	Glu	Gly	Thr	His	Glu	Thr	Lys	Gln		
	290					295					300						
Phe	Trp	His	Leu	Pro	Glu	Glu	Lys	Phe	Phe	Val	Pro	Pro	Ala	Val	Lys		
305					310					315					320		
Asn	Phe	Phe	Ala	His	Lys	Ile	Gln	Glu	Asp	Arg	Lys	Ala	Gln	Glu	Gln		
			325						330					335			
Trp	Leu	Asp	Glu	Val	Arg	Val	Trp	Ser	Lys	Gln	Phe	Pro	Glu	Leu	His		
		340						345					350				
Glu	Glu	Phe	Val	Ala	Leu	Thr	Ser	His	Lys	Leu	Pro	Lys	Asn	Leu	Glu		
		355					360					365					
Ser	Leu	Val	Gln	Ser	Val	Glu	Met	Pro	Asp	Ser	Ile	Ala	Gly	Arg	Ala		
	370					375					380						
Ala	Ser	Asn	Lys	Leu	Ile	Gln	Val	Leu	Val	Gln	His	Ile	Pro	Tyr	Leu		
385					390					395					400		
Ile	Gly	Gly	Ser	Ala	Asp	Leu	Ser	Ser	Ser	Asp	Gly	Thr	Trp	Ile	Ala		
			405						410					415			
Asn	Glu	Lys	Val	Ile	His	Thr	Tyr	Asp	Phe	Ser	Gly	Arg	Asn	Ile	Lys		
		420						425					430				
Tyr	Gly	Val	Arg	Glu	Phe	Gly	Met	Ala	Thr	Ile	Met	Asn	Gly	Leu	Ala		
		435					440					445					
Tyr	Ser	Gln	Val	Phe	Arg	Pro	Phe	Gly	Gly	Thr	Phe	Leu	Val	Phe	Ser		
	450					455					460						
Asp	Tyr	Met	Arg	Asn	Ala	Ile	Arg	Leu	Ala	Ala	Leu	Ser	Lys	Leu	Pro		
465					470					475					480		
Val	Ile	Tyr	Gln	Phe	Thr	His	Asp	Ser	Ile	Phe	Val	Gly	Glu	Asp	Gly		
			485						490					495			
Pro	Thr	His	Gln	Pro	Val	Glu	Gln	Leu	Met	Ser	Leu	Arg	Ala	Ile	Pro		
		500						505					510				
Gly	Leu	Tyr	Val	Ile	Arg	Pro	Ala	Asp	Ala	Asn	Glu	Val	Arg	Gly	Ala		
		515					520					525					
Trp	Ile	Ala	Gly	Leu	Lys	His	Thr	Gly	Pro	Thr	Val	Ile	Val	Leu	Ser		
	530					535					540						
Arg	Gln	Ala	Leu	Pro	Thr	Leu	Pro	Ala	Ala	His	Arg	Pro	Phe	Lys	Asp		
545					550					555					560		
Gly	Ile	Gly	Arg	Gly	Ala	Tyr	Ile	Val	Leu	Lys	Glu	Ser	Gly	Glu	Lys		
			565					570						575			
Pro	Asp	Tyr	Thr	Leu	Phe	Ala	Thr	Gly	Ser	Glu	Val	Ser	Leu	Ala	Leu		
			580					585					590				

Ser Val Ala Lys Glu Leu Glu His Leu Asp Lys Gln Val Arg Val Val  
 595 600 605  
 Ser Phe Pro Cys Trp Glu Leu Phe Glu Ala Gln Asp Val Asp Tyr Lys  
 610 615 620  
 Gln Ser Ile Val Gly Gly Asp Leu Gly Ile Arg Val Ser Ile Glu Ala  
 625 630 635 640  
 Gly Ser Ala Leu Gly Trp Tyr Lys Tyr Ile Gly Ser Glu Gly Leu Ala  
 645 650 655  
 Ile Ala Met Asp Arg Phe Gly Tyr Ser Gly Ala Ser Asp Asp Val Ser  
 660 665 670  
 Glu Glu Cys Gly Phe Thr Thr Glu Gln Ile Leu Gln Arg Ile Leu Ser  
 675 680 685  
 Gln

<210> 896  
 <211> 312  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 896  
 Pro Arg Asn Asp Lys Asn Ala Lys Asn Leu Arg Arg Lys His Tyr Lys  
 1 5 10 15  
 Gly Glu Arg Val Ser Lys His Thr Ser Glu Ser Arg Ile Ala Gln Asp  
 20 25 30  
 Met Leu Glu Arg Tyr Ser Gly Ser Ser Val Lys Gln Phe Cys Pro Tyr  
 35 40 45  
 Leu Leu Leu Thr Asn Phe Ser Tyr Tyr Ile Gln Thr Phe Ala Lys Leu  
 50 55 60  
 His Gly Val Pro Val Phe Glu Gly Ser Met Phe Ser Ala Ala His Ala  
 65 70 75 80  
 Pro His Leu Lys Thr Ser Ile Leu Asp Phe Lys Leu Gly Ser Pro Gly  
 85 90 95  
 Ala Ala Leu Thr Ile Asp Leu Cys Ser Phe Leu Pro Asp Leu Lys Ala  
 100 105 110  
 Ala Leu Met Leu Gly Met Cys Gly Gly Leu Arg Ser His Tyr Gln Val  
 115 120 125  
 Gly Asp Tyr Phe Val Pro Val Ala Ser Ile Arg Gly Glu Gly Thr Ser  
 130 135 140  
 Asp Ala Tyr Phe Pro Pro Glu Val Pro Ala Leu Ala Asn Phe Val Val  
 145 150 155 160  
 Gln Lys Ala Thr Thr Glu Val Leu Glu Asp Lys Lys Ala Asn Tyr His  
 165 170 175  
 Ile Gly Ile Thr His Thr Thr Asn Ile Arg Phe Trp Glu Phe Asn Lys  
 180 185 190  
 Lys Phe Arg Lys Lys Leu Tyr Glu Thr Lys Ala Gln Ser Ala Glu Met  
 195 200 205  
 Glu Cys Ala Thr Leu Phe Ala Ala Gly Tyr Arg Arg Asn Leu Pro Ile  
 210 215 220  
 Gly Ala Leu Leu Leu Ile Ser Asp Leu Pro Leu Arg Lys Glu Gly Ile  
 225 230 235 240  
 Lys Thr Lys Ser Ser Gly Asn Phe Ile Phe Asn Thr Tyr Thr Glu Asp  
 245 250 255  
 His Ile Leu Thr Gly Gln Glu Val Ile Glu Asn Leu Glu Lys Val Met  
 260 265 270  
 Leu Lys Arg Ala Ala Ser Asp His Lys Lys Asp Gln Gln Tyr Arg Gly  
 275 280 285  
 Leu Pro His Met Glu Val Gly Glu Ala Asp Asp Thr Met Ala Ser Gly  
 290 295 300  
 Ser Glu Thr Ser Asp Ser Asp Tyr  
 305 310



<210> 897  
 <211> 195  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 897  
 Glu Ile Asp Cys Phe Met Val Arg Val Ser Thr Ser Glu Phe Arg Val  
 1 5 10 15  
 Gly Leu Arg Ile Glu Ile Asp Gly Gln Pro Tyr Leu Ile Leu Gln Asn  
 20 25 30  
 Asp Phe Val Lys Pro Gly Lys Gly Gln Ala Phe Asn Arg Ile Lys Val  
 35 40 45  
 Lys Asn Phe Leu Thr Gly Arg Val Ile Glu Arg Thr Tyr Lys Ser Gly  
 50 55 60  
 Glu Ser Val Glu Thr Ala Asp Ile Val Glu Arg Ser Met Arg Leu Leu  
 65 70 75 80  
 Tyr Thr Asp Gln Glu Gly Ala Thr Phe Met Asp Asp Glu Thr Phe Glu  
 85 90 95  
 Gln Glu Val Val Phe Trp Glu Lys Leu Glu Asn Ile Arg Gln Trp Leu  
 100 105 110  
 Leu Glu Asp Thr Ile Tyr Thr Leu Val Leu Tyr Asn Gly Asp Val Val  
 115 120 125  
 Ala Val Glu Pro Pro Ile Phe Met Glu Leu Ser Ile Ala Glu Thr Ala  
 130 135 140  
 Pro Gly Val Arg Gly Asp Thr Ala Ser Gly Arg Val Leu Lys Pro Ala  
 145 150 155 160  
 Val Thr Asn Thr Gly Ala Lys Ile Met Val Pro Ile Phe Ile Asp Glu  
 165 170 175  
 Gly Glu Leu Val Lys Val Asp Thr Arg Thr Gly Ser Tyr Glu Ser Arg  
 180 185 190  
 Val Ser Lys  
 195

<210> 898  
 <211> 83  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 898  
 Glu Lys Tyr Phe Phe Phe Thr Val Arg Asn Met Glu Ala Lys Lys Ile  
 1 5 10 15  
 Lys Glu Leu Ser Lys Glu Ala Gln Leu Leu Lys Lys Leu Arg Glu Lys  
 20 25 30  
 Ser Arg Val Leu Asp Glu Lys Asn Lys Arg Lys Ala Trp Val Ala Lys  
 35 40 45  
 Leu Val Ala Met Pro Glu Ser Ile Arg Glu Ile Glu Lys Glu Glu Arg  
 50 55 60  
 Val Glu Thr Pro Gln Leu Phe Gln Ala Ile Ala Glu Lys Ile Leu Glu  
 65 70 75 80  
 Glu Gly Val

<210> 899  
 <211> 314  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 899  
 Asn Phe Ser Leu Asp Ser Asn Thr Val Asp Gln Lys Asn Lys Ser Asn  
 1 5 10 15

Pro Arg Pro Met Gln Glu Lys Pro Arg His Val His Arg Ile Ile His  
 20 25 30  
 Ile Ser Asp Val His Phe His Val Leu Pro Val Asn Pro Val His Cys  
 35 40 45  
 Phe Asn Lys Arg Leu Lys Gly Leu Leu Arg Lys Val Phe Gly Leu Val  
 50 55 60  
 His Phe Gln Ala Thr Thr Ile Gly Gln Arg Phe Pro Lys Val Val Arg  
 65 70 75 80  
 Ser Leu Gly Ala Asp Ser Val Cys Ile Thr Gly Asp Phe Ser Leu Thr  
 85 90 95  
 Ala Met Asp Gly Glu Phe Leu Leu Ala Lys His Phe Val Glu Thr Leu  
 100 105 110  
 Ala Lys His Ser Ser Val Tyr Leu Leu Pro Gly Asn His Asp Val Tyr  
 115 120 125  
 Thr Leu Lys Ser Leu Ala Gln Gln Thr Phe Tyr Thr His Phe Pro Asn  
 130 135 140  
 Asp Gln Leu Gln Gln Asn Lys Val Ser Phe His Lys Ile Thr Asp His  
 145 150 155 160  
 Trp Trp Leu Ile Leu Leu Asp Cys Ser Cys Leu Asn Gly Trp Phe Ser  
 165 170 175  
 Ala Asn Gly Val Val His Leu Ala Gln Ile Ser Ala Ile Glu Thr Phe  
 180 185 190  
 Leu Leu Ser Leu Ser Pro Glu Glu Asn Val Ile Ile Ala Asn His Tyr  
 195 200 205  
 Pro Leu Leu Ser Ser Gln Asn Pro Ser His Asp Leu Ile Asn Asn Thr  
 210 215 220  
 His Leu Gln Asn Val Leu Lys Lys Tyr Pro Lys Val Arg Leu Tyr Leu  
 225 230 235 240  
 His Gly His Glu His Gln Ala Ala Val Tyr Asn Cys Ala Asp Thr Ser  
 245 250 255  
 Pro Ser Tyr Ile Leu Asn Ser Gly Ser Ile Ser Leu Pro Thr Asn Ser  
 260 265 270  
 Arg Phe His Val Ile Asp Leu Tyr Pro Glu Lys Tyr Gln Val His Thr  
 275 280 285  
 Met Ile Leu Lys Asn Leu Leu Asp Phe Asp Ala Pro Leu Glu Ile Ala  
 290 295 300  
 Asn Glu Ala Thr Trp Asp Cys Gln Lys Leu  
 305 310

<210> 900

<211> 536

<212> PRT

<213> Chlamydia pneumoniae

<400> 900

Thr Lys Lys Arg Leu Gly Ser Val Lys Ile Leu Arg Leu Leu Gly Val  
 1 5 10 15  
 Cys Met Ser Glu Gln Glu Lys Leu Ser Asn Tyr Asn Ala Asp Lys Lys  
 20 25 30  
 Leu Phe Ser Gly Ile Asp Lys Leu Phe Gln Ile Val Lys Gly Ser Tyr  
 35 40 45  
 Gly Pro Lys Gln Ser Leu Ser Pro Thr Ser Phe Phe Lys Glu Arg Gly  
 50 55 60  
 Phe Tyr Ala Ile Ser Gln Thr Glu Leu Ser Asn Ser Tyr Glu Asn Leu  
 65 70 75 80  
 Gly Val Asp Phe Ala Lys Ala Met Val Asn Lys Ile His Lys Glu His  
 85 90 95  
 Ser Asp Gly Ala Thr Thr Gly Leu Ile Leu Leu His Ala Ile Leu Gln  
 100 105 110  
 Glu Ser Tyr Ala Ala Leu Glu Lys Gly Ile Ser Thr His Lys Leu Ile  
 115 120 125

Ala	Ser	Leu	Lys	Leu	Gln	Gly	Glu	Lys	Leu	Gln	Glu	Ala	Leu	Gln	Gln
130						135					140				
Gln	Ser	Trp	Pro	Ile	Lys	Asp	Ala	Leu	Lys	Val	Arg	Asn	Ile	Ile	Phe
145					150					155					160
Ser	Ser	Leu	His	Met	Pro	Thr	Ile	Ala	Asp	His	Phe	Tyr	Asn	Ala	Phe
				165					170					175	
Ser	Val	Val	Gly	Pro	Glu	Gly	Leu	Ile	Ser	Ile	Thr	Lys	Glu	Arg	Glu
			180					185					190		
Asn	Asp	Lys	Thr	Ser	Met	Asp	Val	Phe	Gln	Gly	Phe	Lys	Ile	Pro	Ala
		195				200					205				
Gly	Tyr	Ala	Ser	Thr	Tyr	Phe	Val	Ser	Asp	Thr	Ala	Ser	Arg	Leu	Thr
210						215					220				
Arg	Ile	Ala	His	Pro	Leu	Ile	Leu	Ile	Thr	Asp	Arg	Lys	Ile	Ser	Met
225					230					235					240
Ile	His	Ser	Leu	Leu	Pro	Leu	Leu	Gln	Glu	Ile	Ser	Glu	Gln	Asn	Gln
				245				250					255		
His	Leu	Ile	Ile	Phe	Cys	Glu	Asp	Ile	Asp	Pro	Asp	Val	Leu	Ala	Thr
			260				265					270			
Leu	Val	Val	Asn	Lys	Leu	Gln	Gly	Leu	Leu	Gln	Val	Thr	Val	Val	Thr
		275					280					285			
Ile	Pro	Gln	Leu	Ser	Thr	Thr	Asn	Gln	Glu	Leu	Ala	Glu	Asp	Ile	Ala
290						295					300				
Leu	Phe	Thr	Gly	Thr	His	Ile	Cys	Pro	Cys	Gln	Glu	Ala	Ser	His	Val
305					310					315					320
Leu	Ala	Pro	Glu	Met	Val	Thr	Leu	Gly	Ser	Cys	Leu	Ser	Ile	Glu	Ile
				325				330					335		
Ser	Glu	Ser	Gln	Thr	Thr	Leu	Ile	Gly	Gly	Leu	His	Ile	Pro	Glu	Val
			340					345				350			
Leu	Thr	Leu	Lys	Thr	Arg	Gln	Leu	Ala	Glu	Glu	Ile	Arg	Thr	Thr	Ser
		355				360						365			
Cys	Leu	Glu	Thr	Lys	Lys	Arg	Leu	Ile	Lys	Ser	Thr	Asn	Arg	Leu	Gln
370						375					380				
Ser	Ser	Val	Ala	Ile	Leu	Pro	Thr	Asp	Glu	Asp	Asn	Glu	Pro	Leu	Tyr
385					390					395					400
Thr	Leu	Ala	Leu	Lys	Ile	Met	Glu	Ser	Ala	Leu	Ser	Arg	Gly	Tyr	Val
				405					410				415		
Pro	Gly	Gly	Gly	Val	Ala	Leu	Phe	Tyr	Ala	Ser	Leu	Thr	Leu	Gly	Thr
			420					425				430			
Pro	Lys	Asp	Asp	Ala	Asp	Glu	Asn	Ser	Ile	Ala	Ile	Ser	Leu	Leu	Gln
		435					440				445				
Lys	Ala	Cys	Cys	Ala	Pro	Leu	Lys	Leu	Leu	Ala	Thr	Asn	Ala	Asp	Leu
		450				455					460				
Asp	Gly	Asp	Ala	Val	Ile	Ala	Lys	Leu	Ser	Ser	Leu	Gly	Thr	Thr	Ser
465					470					475					480
Leu	Gly	Ile	Ser	Val	Phe	Ser	Arg	Glu	Ile	Glu	Asp	Leu	Ile	Ala	Gly
				485					490				495		
Gly	Ile	Leu	Asp	Ser	Leu	Ala	Thr	Thr	Ser	Thr	Ile	Leu	Ala	Gln	Ala
			500					505				510			
Leu	Asp	Thr	Ala	Ile	Leu	Val	Leu	Ser	Ser	Lys	Ile	Leu	Ile	Leu	Glu
		515					520					525			
Asn	Gln	Tyr	Glu	Ile	Ser	Thr	Leu								
530						535									

<210> 901

<211> 456

<212> PRT

<213> Chlamydia pneumoniae

<400> 901

Asn	His	Arg	Cys	Cys	Arg	Gln	Asn	Tyr	Met	Arg	Ala	Met	Leu	Leu	Glu
1				5					10					15	

Asp	Trp	Val	Ser	Leu	Met	Leu	Ser	Asp	Val	Ser	Cys	Pro	Lys	Cys	Asp
			20					25					30		
Lys	Lys	Ile	Thr	Gly	Phe	Ala	Ile	Asp	Ser	Gln	Gln	Val	Gln	Pro	Gly
		35					40					45			
Asp	Leu	Phe	Phe	Ala	Leu	Pro	Gly	Asn	Ala	Thr	Asp	Gly	His	Gln	Phe
	50					55					60				
Leu	Lys	His	Ala	Ala	Thr	Ala	Gly	Ala	Val	Ala	Ala	Val	Val	Ser	His
	65				70					75					80
Asp	Tyr	Gln	Gly	Asp	Ser	Phe	Gly	Leu	Glu	Leu	Ile	Arg	Val	Asp	Asp
				85					90					95	
Thr	Lys	Ser	Ala	Leu	Gln	Glu	Ala	Gly	Ser	Asn	Gln	Cys	Asn	Leu	Phe
			100					105					110		
Gln	Gly	Thr	Leu	Val	Gly	Ile	Thr	Gly	Ser	Val	Gly	Lys	Thr	Thr	Thr
		115					120					125			
Lys	Glu	Phe	Ser	Lys	Thr	Ile	Leu	Ser	Ser	Ile	Tyr	Lys	Thr	His	Ala
	130					135					140				
Ser	Pro	Lys	Ser	Tyr	Asn	Ser	Gln	Leu	Thr	Val	Pro	Leu	Ser	Leu	Leu
	145				150					155					160
Met	Ala	Glu	Gly	Asp	Glu	Asp	Val	Met	Ile	Leu	Glu	Met	Gly	Val	Ser
				165					170					175	
Glu	Pro	Gly	Asn	Met	Gln	Asp	Leu	Leu	Arg	Ile	Val	Gln	Pro	Glu	Ile
			180					185					190		
Ala	Val	Ile	Thr	His	Ile	Asn	Asp	Gln	His	Ala	Met	His	Phe	Pro	Gln
		195				200						205			
Gly	Ile	Gln	Glu	Ile	Leu	Lys	Glu	Lys	Ser	Tyr	Ile	Leu	Gln	Lys	Ser
	210					215					220				
Lys	Leu	Gln	Leu	Leu	Pro	Lys	Asp	Ser	Pro	Tyr	Tyr	Leu	Asp	Leu	Arg
	225				230					235					240
Ser	Cys	Ser	Pro	Thr	Ala	Glu	Lys	Phe	Ser	Phe	Ser	Phe	Asn	Asp	Pro
				245					250					255	
Leu	Ala	Asp	Phe	Cys	Tyr	Lys	Ala	Ile	Ser	Gly	Asp	Ser	Val	Val	Ile
			260					265					270		
Gln	Thr	Pro	Glu	Glu	Asn	Tyr	Cys	Leu	Pro	Ile	Ala	Phe	Ser	Tyr	Lys
		275					280					285			
Pro	Ala	Tyr	Thr	Asn	Leu	Leu	Ile	Ala	Val	Ala	Leu	Ser	Trp	Ile	Leu
	290					295					300				
Glu	Val	Pro	Glu	Glu	Gly	Val	Ile	Arg	Ser	Leu	Pro	Glu	Leu	Lys	Leu
	305				310					315					320
Pro	Pro	Met	Arg	Phe	Glu	His	Ser	Met	Arg	Asn	Gly	Met	Gln	Val	Ile
				325					330					335	
Asn	Asp	Ala	Tyr	Asn	Ala	Cys	Pro	Glu	Ala	Met	Ile	Ala	Ala	Leu	Asp
			340					345					350		
Ala	Leu	Pro	Leu	Pro	Ser	Asp	Gly	Lys	Ile	Ile	Leu	Ile	Leu	Gly	
		355				360						365			
His	Met	Ala	Glu	Leu	Gly	Arg	Tyr	Ser	Glu	Glu	Gly	His	Ala	Leu	Val
	370					375					380				
Ala	Glu	Lys	Ala	Ala	Ser	Arg	Gly	Asp	Met	Ile	Phe	Phe	Ile	Gly	Glu
	385				390					395					400
Lys	Trp	Ile	Pro	Val	Gln	Ser	Val	Leu	Lys	Ser	Tyr	Ser	Cys	Glu	Val
				405					410					415	
Ser	Phe	Phe	Ser	Ser	Ala	Gln	Asp	Val	Lys	Asp	Ile	Leu	Lys	Gln	Val
			420					425					430		
Ala	Arg	Tyr	Gly	Asp	Val	Ile	Leu	Leu	Lys	Gly	Ser	Arg	Ala	Leu	Ala
		435				440						445			
Leu	Glu	Ser	Leu	Leu	Ala	Cys	Phe								
	450					455									

<210> 902

<211> 358

<212> PRT

<213> Chlamydia pneumoniae

<400> 902

Leu	Val	Phe	Asn	Phe	Leu	Gly	Ala	Ser	Met	Ile	Pro	Leu	Ile	Pro	Met
1				5					10					15	
Phe	Leu	Lys	Gln	Ser	Leu	Phe	Phe	Ser	Leu	Ala	Leu	Thr	Gly	Met	Thr
			20					25					30		
Thr	Leu	Val	Leu	Thr	Val	Ala	Leu	Gly	Val	Pro	Val	Met	Lys	Trp	Leu
		35					40					45			
Lys	Arg	Lys	Asn	Tyr	Arg	Asp	Tyr	Ile	His	Lys	Glu	Tyr	Cys	Glu	Lys
	50					55					60				
Leu	Glu	Met	Leu	His	Lys	Asp	Lys	Ala	Glu	Val	Pro	Thr	Gly	Gly	Gly
65				70						75					80
Val	Leu	Leu	Phe	Ile	Ser	Leu	Ile	Ala	Ser	Leu	Leu	Val	Trp	Leu	Pro
			85						90					95	
Trp	Gly	Lys	Phe	Ser	Thr	Trp	Phe	Phe	Ile	Ile	Leu	Leu	Thr	Cys	Tyr
			100					105					110		
Ala	Gly	Leu	Gly	Trp	Tyr	Asp	Asp	Arg	Ile	Lys	Ile	Lys	Arg	Lys	Gln
	115					120					125				
Gly	His	Gly	Leu	Lys	Ala	Lys	His	Lys	Phe	Met	Val	Gln	Ile	Ala	Ile
	130				135					140					
Ala	Ala	Phe	Thr	Leu	Ile	Ala	Leu	Pro	Tyr	Ile	Tyr	Gly	Ser	Thr	Glu
145				150						155					160
Pro	Leu	Trp	Thr	Leu	Lys	Ile	Pro	Phe	Met	Glu	Gly	Met	Leu	Ser	Leu
			165						170				175		
Pro	Phe	Trp	Leu	Gly	Lys	Val	Phe	Cys	Leu	Gly	Leu	Ala	Leu	Val	Ala
		180						185				190			
Ile	Ile	Gly	Thr	Ser	Asn	Ala	Val	Asn	Leu	Thr	Asp	Gly	Leu	Asp	Gly
	195				200						205				
Leu	Ala	Ala	Gly	Thr	Met	Ser	Phe	Ala	Ala	Leu	Gly	Phe	Ile	Phe	Val
210					215						220				
Ala	Leu	Arg	Ser	Ser	Thr	Ile	Pro	Ile	Ala	Gln	Asp	Val	Ala	Tyr	Val
225				230						235					240
Leu	Ala	Ala	Leu	Val	Gly	Ala	Cys	Ile	Gly	Phe	Leu	Trp	Tyr	Asn	Gly
			245						250				255		
Phe	Pro	Ala	Gln	Leu	Phe	Met	Gly	Asp	Thr	Gly	Ser	Leu	Leu	Leu	Gly
		260					265					270			
Gly	Leu	Leu	Gly	Ser	Cys	Ala	Val	Met	Leu	Arg	Ala	Glu	Cys	Ile	Leu
	275				280						285				
Val	Val	Ile	Gly	Gly	Val	Phe	Val	Ala	Glu	Ala	Gly	Ser	Val	Ile	Leu
	290				295					300					
Gln	Val	Leu	Ser	Cys	Arg	Leu	Arg	Lys	Lys	Arg	Leu	Phe	Leu	Cys	Ser
305				310						315					320
Pro	Leu	His	His	His	Tyr	Glu	Tyr	Gln	Gly	Leu	Pro	Glu	Thr	Lys	Ile
			325						330				335		
Val	Met	Arg	Phe	Trp	Ile	Phe	Ser	Phe	Val	Cys	Ala	Gly	Leu	Gly	Ile
			340					345					350		
Ala	Ala	Val	Leu	Trp	Arg										
		355													

<210> 903

<211> 433

<212> PRT

<213> Chlamydia pneumoniae

<400> 903

Phe	Cys	Met	Arg	Arg	Ser	Arg	Tyr	Ser	Gly	Cys	Leu	Met	Glu	Ile	Asp
1				5					10					15	
Met	Cys	Gln	Arg	Ile	Leu	Ile	Leu	Gly	Thr	Gly	Ile	Thr	Gly	Lys	Ser
		20						25					30		
Val	Ala	Arg	Phe	Leu	Tyr	Gln	Gln	Gly	His	Tyr	Leu	Ile	Gly	Ala	Asp
		35					40					45			

Asn Ser Leu Glu Ser Leu Ile Ser Val Asp His Leu His Asp Arg Leu  
 50 55 60  
 Leu Met Gly Ala Ser Glu Phe Pro Glu Asn Ile Asp Leu Val Ile Arg  
 65 70 75 80  
 Ser Pro Gly Ile Lys Pro Tyr His Pro Trp Val Glu Gln Ala Val Ser  
 85 90 95  
 Leu Lys Ile Pro Val Val Thr Asp Ile Gln Val Ala Leu Lys Thr Pro  
 100 105 110  
 Glu Phe Gln Arg Tyr Pro Ser Phe Gly Ile Thr Gly Ser Asn Gly Lys  
 115 120 125  
 Thr Thr Thr Thr Leu Phe Leu Thr His Leu Leu Asn Thr Leu Gly Ile  
 130 135 140  
 Pro Ala Ile Ala Met Gly Asn Ile Gly Leu Pro Ile Leu Asp His Met  
 145 150 155 160  
 Gly Gln Pro Gly Val Arg Val Val Glu Ile Ser Ser Phe Gln Leu Ala  
 165 170 175  
 Thr Gln Glu Glu His Ile Pro Ala Leu Ser Gly Ser Val Phe Leu Asn  
 180 185 190  
 Phe Ser Arg Asn His Leu Asp Tyr His Arg Asn Leu Asp Ala Tyr Phe  
 195 200 205  
 Asp Ala Lys Leu Arg Ile Gln Lys Cys Leu Arg Gln Asp Lys Thr Phe  
 210 215 220  
 Trp Val Trp Glu Glu Cys Ser Leu Gly Asn Ser Tyr Gln Ile Tyr Ser  
 225 230 235 240  
 Glu Glu Ile Glu Glu Ile Leu Asp Lys Gly Asp Ala Leu Lys Pro Ile  
 245 250 255  
 Tyr Leu His Asp Arg Asp Asn Tyr Cys Ala Ala Tyr Ala Leu Ala Asn  
 260 265 270  
 Glu Val Gly Trp Val Ser Pro Glu Gly Phe Leu Lys Ala Ile Arg Thr  
 275 280 285  
 Phe Glu Lys Pro Ala His Arg Leu Glu Tyr Leu Gly Lys Lys Asp Gly  
 290 295 300  
 Val His Tyr Ile Asn Asp Ser Lys Ala Thr Thr Val Thr Ala Val Glu  
 305 310 315 320  
 Lys Ala Leu Met Ala Val Gly Lys Asp Val Ile Val Ile Leu Gly Gly  
 325 330 335  
 Lys Asp Lys Gly Asp Phe Pro Ala Leu Ala Ser Val Leu Ser Gln  
 340 345 350  
 Thr Thr Lys His Val Ile Ala Met Gly Glu Cys Arg Gln Thr Ile Ala  
 355 360 365  
 Asp Ala Leu Ser Glu Lys Ile Pro Leu Thr Leu Ser Lys Asp Leu Gln  
 370 375 380  
 Glu Ala Val Ser Ile Ala Gln Thr Ile Ala Gln Glu Gly Asp Thr Val  
 385 390 395 400  
 Leu Leu Ser Pro Gly Cys Ala Ser Phe Asp Gln Phe Gln Ser Phe Lys  
 405 410 415  
 Glu Arg Gly Ala Tyr Phe Lys Leu Leu Ile Arg Glu Met Gln Ala Val  
 420 425 430  
 Arg

<210> 904

<211> 245

<212> PRT

<213> Chlamydia pneumoniae

<400> 904

Ala Val Asp Gln Arg Asn Ala Gly Ser Glu Val Asn Met Asn Arg Arg  
 1 5 10 15  
 Asp Met Val Ile Thr Ala Val Val Val Asn Ala Ile Leu Leu Val Ala  
 20 25 30

Leu Phe Val Thr Ser Lys Arg Ile Gly Val Lys Asp Tyr Asp Glu Gly  
           35                          40                          45  
 Phe Arg Asn Phe Ala Ser Ser Lys Val Thr Gln Ala Val Val Ser Glu  
           50                          55                          60  
 Glu Lys Val Ile Glu Lys Pro Val Val Ala Glu Val Pro Ser Arg Pro  
   65                          70                          75                          80  
 Ile Ala Lys Glu Thr Leu Ala Ala Gln Phe Ile Glu Ser Lys Pro Val  
                           85                          90                          95  
 Ile Val Thr Thr Pro Pro Val Pro Val Ser Glu Thr Pro Glu Val  
                           100                          105                          110  
 Pro Thr Val Ala Val Pro Pro Gln Pro Val Arg Glu Thr Val Lys Glu  
                           115                          120                          125  
 Glu Gln Ala Pro Tyr Ala Thr Val Val Val Lys Lys Gly Asp Phe Leu  
   130                          135                          140  
 Glu Arg Ile Ala Arg Ala Asn His Thr Thr Val Ala Lys Leu Met Gln  
   145                          150                          155                          160  
 Ile Asn Asp Leu Thr Thr Thr Gln Leu Lys Ile Gly Gln Val Ile Lys  
                           165                          170                          175  
 Val Pro Thr Ser Gln Asp Val Ser Asn Glu Lys Thr Pro Gln Thr Gln  
                           180                          185                          190  
 Thr Ala Asn Pro Glu Asn Tyr Tyr Ile Val Gln Glu Gly Asp Ser Pro  
   195                          200                          205  
 Trp Thr Ile Ala Leu Arg Asn His Ile Arg Leu Asp Asp Leu Leu Lys  
   210                          215                          220  
 Met Asn Asp Leu Asp Glu Tyr Lys Ala Arg Arg Leu Lys Pro Gly Asp  
   225                          230                          235                          240  
 Gln Leu Arg Ile Arg  
                           245

<210> 905

<211> 391

<212> PRT

<213> Chlamydia pneumoniae

<400> 905

Ser Lys Gln Ser Leu Ser Met Lys Trp Phe Val Ile Ser Cys Leu Leu  
   1                          5                          10                          15  
 Gly Ile Phe Ser Leu Gly Leu Ile Met Val Phe Asp Thr Ser Ser Ala  
                           20                          25                          30  
 Glu Val Leu Asp Arg Ser Leu Glu Cys Ser Thr His Lys Ala Leu Ile  
                           35                          40                          45  
 Arg Gln Val Thr Tyr Leu Ile Leu Gly Leu Gly Val Ala Ser Leu Leu  
   50                          55                          60  
 Tyr Met Met Glu Trp Arg Asp Phe Leu Lys Ile Ser Pro Val Leu Leu  
   65                          70                          75                          80  
 Ser Gly Ala Ala Leu Ala Leu Ile Cys Val Phe Ile Pro Gly Leu Gly  
                           85                          90                          95  
 Ile Cys Arg Asn Gly Ala Arg Arg Trp Leu Gly Phe Gly Gln Leu Thr  
                           100                          105                          110  
 Ile Gln Pro Ser Glu Phe Val Lys Tyr Leu Val Pro Ile Val Ala Leu  
                           115                          120                          125  
 Tyr Phe Leu Thr Phe Ser Ser Leu Tyr Gln Lys Gln Leu Lys Met Phe  
   130                          135                          140  
 Leu Lys Leu Thr Ala Ile Leu Phe Ile Pro Ile Leu Leu Ile Ala Ile  
   145                          150                          155                          160  
 Glu Pro Asp Asn Gly Ser Ala Ala Val Ile Ser Ala Ser Leu Ile Pro  
                           165                          170                          175  
 Val Phe Ile Met Thr Ser Val Arg Leu Arg Tyr Trp Leu Leu Pro Leu  
                           180                          185                          190  
 Leu Cys Val Leu Ile Ala Gly Gly Ala Leu Ala Tyr Arg Met Pro Tyr  
   195                          200                          205

Val	Arg	Tyr	Arg	Leu	Asn	Val	Tyr	Leu	His	Pro	Glu	Leu	Asp	Ile	Lys
210						215				220					
Gly	Arg	Gly	His	Gln	Pro	Tyr	Gln	Ala	Lys	Ile	Ala	Ala	Gly	Ser	Gly
225					230					235					240
Lys	Leu	Leu	Gly	Lys	Gly	Pro	Gly	Ala	Ser	Leu	Gln	Lys	Leu	Thr	Tyr
				245					250					255	
Leu	Pro	Glu	Ala	Gln	Asn	Asp	Tyr	Ile	Ala	Ala	Ile	Tyr	Ala	Glu	Glu
			260					265					270		
Phe	Gly	Phe	Leu	Gly	Met	Leu	Val	Leu	Ile	Leu	Leu	Tyr	Met	Cys	Phe
		275					280					285			
Val	Tyr	Gly	Gly	Tyr	Ala	Ile	Ala	Ile	Lys	Ala	Ser	Ser	Leu	Glu	Gly
290						295				300					
Ala	Ala	Leu	Ala	Met	Val	Ile	Thr	Leu	Ile	Ile	Ser	Met	Gln	Ala	Phe
305					310					315					320
Met	Asn	Leu	Gly	Val	Val	Ser	Gly	Leu	Leu	Pro	Ser	Lys	Gly	Val	Asn
				325					330					335	
Leu	Pro	Phe	Phe	Ser	Gln	Gly	Gly	Ser	Ser	Leu	Ile	Ala	Asn	Met	Cys
			340					345					350		
Gly	Val	Thr	Leu	Leu	Leu	Lys	Val	Tyr	Asp	Glu	Glu	Asn	Ser	Lys	Ser
		355					360					365			
Ser	Leu	Gly	Cys	Arg	Arg	Phe	Arg	Arg	Pro	His	Cys	Pro	Ser	Ser	Leu
370						375					380				
Gly	Lys	Gly	Ser	Phe	Phe	Ser									
385					390										

<210> 906

<211> 359

<212> PRT

<213> Chlamydia pneumoniae

<400> 906

Arg	Tyr	Met	Met	Lys	Lys	Ile	Arg	Lys	Val	Ala	Leu	Ala	Val	Gly	Gly
1				5					10					15	
Ser	Gly	Gly	His	Ile	Val	Pro	Ala	Leu	Ser	Val	Lys	Glu	Ala	Phe	Ser
			20					25					30		
Arg	Glu	Gly	Ile	Asp	Val	Leu	Leu	Gly	Lys	Gly	Leu	Lys	Asn	His	
		35				40					45				
Pro	Ser	Leu	Gln	Gln	Gly	Ile	Ser	Tyr	Arg	Glu	Ile	Pro	Ser	Gly	Leu
		50				55				60					
Pro	Thr	Val	Leu	Asn	Pro	Ile	Lys	Ile	Met	Ser	Arg	Thr	Leu	Ser	Leu
65					70					75					80
Cys	Ser	Gly	Tyr	Leu	Lys	Ala	Arg	Lys	Glu	Leu	Lys	Ile	Phe	Asp	Pro
				85					90					95	
Asp	Leu	Val	Ile	Gly	Phe	Gly	Ser	Tyr	His	Ser	Leu	Pro	Val	Leu	Leu
		100						105					110		
Ala	Gly	Leu	Ser	His	Lys	Ile	Pro	Leu	Phe	Leu	His	Glu	Gln	Asn	Leu
		115					120					125			
Val	Pro	Gly	Lys	Val	Asn	Gln	Leu	Phe	Ser	Arg	Tyr	Ala	Arg	Gly	Ile
		130				135					140				
Gly	Val	Asn	Phe	Ser	Pro	Val	Thr	Lys	His	Phe	Arg	Cys	Pro	Ala	Glu
145					150					155					160
Glu	Val	Phe	Leu	Pro	Lys	Arg	Ser	Phe	Ser	Leu	Gly	Ser	Pro	Met	Met
				165					170					175	
Lys	Arg	Cys	Thr	Asn	His	Thr	Pro	Thr	Ile	Cys	Val	Val	Gly	Gly	Ser
			180					185					190		
Gln	Gly	Ala	Gln	Ile	Leu	Asn	Thr	Cys	Val	Pro	Gln	Ala	Leu	Val	Lys
		195					200					205			
Leu	Val	Asn	Lys	Tyr	Pro	Asn	Met	Tyr	Val	His	His	Ile	Val	Gly	Pro
		210				215					220				
Lys	Ser	Asp	Val	Met	Lys	Val	Gln	His	Val	Tyr	Asn	Arg	Gly	Glu	Val
225					230					235					240



Leu Cys Cys Val Lys Pro Phe Glu Glu Gln Leu Leu Asp Val Leu Leu  
                                   245                                  250                                  255  
 Ala Ala Asp Leu Val Ile Ser Arg Ala Gly Ala Thr Ile Leu Glu Glu  
                                   260                                  265                                  270  
 Ile Leu Trp Ala Lys Val Pro Gly Ile Leu Ile Pro Tyr Pro Gly Ala  
                                   275                                  280                                  285  
 Tyr Gly His Gln Glu Val Asn Ala Lys Phe Phe Val Asp Val Leu Glu  
                                   290                                  295                                  300  
 Gly Gly Thr Met Ile Leu Glu Lys Glu Leu Thr Glu Lys Leu Leu Val  
 305                                  310                                  315                                  320  
 Glu Lys Val Thr Phe Ala Leu Asp Ser His Asn Arg Glu Lys Gln Arg  
                                   325                                  330                                  335  
 Asn Ser Leu Ala Ala Tyr Ser Gln Gln Arg Ser Thr Lys Thr Phe His  
                                   340                                  345                                  350  
 Ala Phe Ile Cys Glu Cys Leu  
                                   355

<210> 907

<211> 812

<212> PRT

<213> Chlamydia pneumoniae

<400> 907

Val His Tyr Met Lys Gly Thr Pro Gln Tyr His Phe Ile Gly Ile Gly  
 1                                  5                                  10                                  15  
 Gly Ile Gly Met Ser Ala Leu Ala His Ile Leu Leu Asp Arg Gly Tyr  
                                   20                                  25                                  30  
 Glu Val Ser Gly Ser Asp Leu Tyr Glu Ser Tyr Thr Ile Glu Ser Leu  
                                   35                                  40                                  45  
 Lys Ala Lys Gly Ala Arg Cys Phe Ser Gly His Asp Ser Ser His Val  
 50                                  55                                  60  
 Pro His Asp Ala Val Val Val Tyr Ser Ser Ser Ile Ala Pro Asp Asn  
 65                                  70                                  75                                  80  
 Val Glu Tyr Leu Thr Ala Ile Gln Arg Ser Ser Arg Leu Leu His Arg  
                                   85                                  90                                  95  
 Ala Glu Leu Leu Ser Gln Leu Met Glu Gly Tyr Glu Ser Ile Leu Val  
                                   100                                  105                                  110  
 Ser Gly Ser His Gly Lys Thr Gly Thr Ser Ser Leu Ile Arg Ala Ile  
                                   115                                  120                                  125  
 Phe Gln Glu Ala Gln Lys Asp Pro Ser Tyr Ala Ile Gly Gly Leu Ala  
                                   130                                  135                                  140  
 Ala Asn Cys Leu Asn Gly Tyr Ser Gly Ser Ser Lys Ile Phe Val Ala  
 145                                  150                                  155                                  160  
 Glu Ala Asp Glu Ser Asp Gly Ser Leu Lys His Tyr Thr Pro Arg Ala  
                                   165                                  170                                  175  
 Val Val Ile Thr Asn Ile Asp Asn Glu His Leu Asn Asn Tyr Ala Gly  
                                   180                                  185                                  190  
 Asn Leu Asp Asn Leu Val Gln Val Ile Gln Asp Phe Ser Arg Lys Val  
                                   195                                  200                                  205  
 Thr Asp Leu Asn Lys Val Phe Tyr Asn Gly Asp Cys Pro Ile Leu Lys  
                                   210                                  215                                  220  
 Gly Asn Val Gln Gly Ile Ser Tyr Gly Tyr Ser Pro Glu Cys Gln Leu  
 225                                  230                                  235                                  240  
 His Ile Val Ser Tyr Asn Gln Lys Ala Trp Gln Ser His Phe Ser Phe  
                                   245                                  250                                  255  
 Thr Phe Leu Gly Gln Glu Tyr Gln Asp Ile Glu Leu Asn Leu Pro Gly  
                                   260                                  265                                  270  
 Gln His Asn Ala Ala Asn Ala Ala Ala Cys Gly Val Ala Leu Thr  
                                   275                                  280                                  285  
 Phe Gly Ile Asp Ile Asn Ile Ile Arg Lys Ala Leu Lys Lys Phe Ser  
                                   290                                  295                                  300

Gly	Val	His	Arg	Arg	Leu	Glu	Arg	Lys	Asn	Ile	Ser	Glu	Ser	Phe	Leu
305					310					315					320
Phe	Leu	Glu	Asp	Tyr	Ala	His	His	Pro	Val	Glu	Val	Ala	His	Thr	Leu
			325						330					335	
Arg	Ser	Val	Arg	Asp	Ala	Val	Gly	Leu	Arg	Arg	Val	Ile	Ala	Ile	Phe
			340					345					350		
Gln	Pro	His	Arg	Phe	Ser	Arg	Leu	Glu	Glu	Cys	Leu	Gln	Thr	Phe	Pro
		355					360					365			
Lys	Ala	Phe	Gln	Glu	Ala	Asp	Glu	Val	Ile	Leu	Thr	Asp	Val	Tyr	Ser
	370					375					380				
Ala	Gly	Glu	Ser	Pro	Arg	Glu	Ser	Ile	Ile	Leu	Ser	Asp	Leu	Ala	Glu
385					390					395					400
Gln	Ile	Arg	Lys	Ser	Ser	Tyr	Val	His	Cys	Cys	Tyr	Val	Pro	His	Gly
				405					410					415	
Asp	Ile	Val	Asp	Tyr	Leu	Arg	Asn	Tyr	Ile	Arg	Ile	His	Asp	Val	Cys
			420					425					430		
Val	Ser	Leu	Gly	Ala	Gly	Asn	Ile	Tyr	Thr	Ile	Gly	Glu	Ala	Leu	Lys
		435				440						445			
Asp	Phe	Asn	Pro	Lys	Lys	Leu	Ser	Ile	Gly	Leu	Val	Cys	Gly	Gly	Lys
	450					455					460				
Ser	Cys	Glu	His	Asp	Ile	Ser	Leu	Leu	Ser	Ala	Gln	His	Val	Ser	Lys
465					470					475					480
Tyr	Ile	Ser	Pro	Glu	Phe	Tyr	Asp	Val	Ser	Tyr	Phe	Ile	Ile	Asn	Arg
				485					490					495	
Gln	Gly	Leu	Trp	Arg	Thr	Gly	Lys	Asp	Phe	Pro	His	Leu	Ile	Glu	Glu
		500						505					510		
Thr	Gln	Gly	Asp	Ser	Pro	Leu	Ser	Ser	Glu	Ile	Ala	Ser	Ala	Leu	Ala
	515					520						525			
Lys	Val	Asp	Cys	Leu	Phe	Pro	Val	Leu	His	Gly	Pro	Phe	Gly	Glu	Asp
	530					535					540				
Gly	Thr	Ile	Gln	Gly	Phe	Phe	Glu	Ile	Leu	Gly	Lys	Pro	Tyr	Ala	Gly
545					550					555					560
Pro	Ser	Leu	Ser	Leu	Ala	Ala	Thr	Ala	Met	Asp	Lys	Leu	Leu	Thr	Lys
				565					570					575	
Arg	Ile	Ala	Ser	Ala	Val	Gly	Val	Pro	Val	Val	Pro	Tyr	Gln	Pro	Leu
			580					585					590		
Asn	Leu	Cys	Phe	Trp	Lys	Arg	Asn	Pro	Glu	Leu	Cys	Ile	Gln	Asn	Leu
	595						600					605			
Ile	Glu	Thr	Phe	Ser	Phe	Pro	Met	Ile	Val	Lys	Thr	Ala	His	Leu	Gly
	610					615					620				
Ser	Ser	Ile	Gly	Ile	Phe	Leu	Val	Arg	Asp	Lys	Glu	Glu	Leu	Gln	Glu
625					630				635					640	
Lys	Ile	Ser	Glu	Ala	Phe	Leu	Tyr	Asp	Thr	Asp	Val	Phe	Val	Glu	Glu
				645					650					655	
Ser	Arg	Leu	Gly	Ser	Arg	Glu	Ile	Glu	Val	Ser	Cys	Ile	Gly	His	Ser
			660					665					670		
Ser	Ser	Trp	Tyr	Cys	Met	Ala	Gly	Pro	Asn	Glu	Arg	Cys	Gly	Ala	Ser
		675					680					685			
Gly	Phe	Ile	Asp	Tyr	Gln	Glu	Lys	Tyr	Gly	Phe	Asp	Gly	Ile	Asp	Cys
	690					695					700				
Ala	Lys	Ile	Ser	Phe	Asp	Leu	Gln	Leu	Ser	Gln	Glu	Ser	Leu	Asp	Cys
705					710					715					720
Val	Arg	Glu	Leu	Ala	Glu	Arg	Val	Tyr	Arg	Ala	Met	Gln	Gly	Lys	Gly
				725					730					735	
Ser	Ala	Arg	Ile	Asp	Phe	Phe	Leu	Asp	Glu	Glu	Gly	Asn	Tyr	Trp	Leu
			740					745					750		
Ser	Glu	Val	Asn	Pro	Ile	Pro	Gly	Met	Thr	Ala	Ala	Ser	Pro	Phe	Leu
		755					760					765			
Gln	Ala	Phe	Val	His	Ala	Gly	Trp	Thr	Gln	Glu	Gln	Ile	Val	Asp	His
	770					775						780			

Phe Ile Ile Asp Ala Leu His Lys Phe Asp Lys Gln Gln Thr Ile Glu  
 785 790 795 800  
 Gln Ala Phe Thr Lys Glu Gln Asp Leu Val Lys Arg  
 805 810

<210> 908  
 <211> 199  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 908  
 Lys Trp Gly Ser Glu Val Leu Glu Leu Val Asn Asp Ser Gln Leu Ser  
 1 5 10 15  
 Arg Glu Ala Ser Ala Phe Arg Leu Asp Ile Asp Phe Phe Ile Leu Asn  
 20 25 30  
 Ile Tyr Pro Phe Phe Arg Asn Phe Lys Asn Ile Glu Leu Cys Phe Phe  
 35 40 45  
 Leu Ser Ile Ser Gln Phe Asn Leu Asp Met Glu Glu Phe Val Ala Tyr  
 50 55 60  
 Ile Val Lys Asn Leu Val Thr Asn Pro Glu Ala Val Glu Ile Arg Ser  
 65 70 75 80  
 Ile Glu Asp Glu Asp Asn Glu Ser Ile Lys Leu Glu Ile Arg Val Ala  
 85 90 95  
 Ala Glu Asp Ile Gly Lys Ile Ile Gly Arg Arg Gly Asn Thr Ile His  
 100 105 110  
 Ala Leu Arg Thr Ile Leu Arg Arg Val Cys Ser Arg Leu Lys Lys Lys  
 115 120 125  
 Val Gln Ile Asp Leu Val Gln Pro Glu Asn Gly Thr Asp Val Ile Ala  
 130 135 140  
 Asp Gln Asp Tyr Ile Cys Asp Asn Asp Ser Ser Asn Ser Thr Glu Asp  
 145 150 155 160  
 Thr Phe Gly Glu Ser Asp Thr Cys Cys Ser Gly His Cys His Tyr Asp  
 165 170 175  
 Glu Asp Leu Asn Gln Glu Glu Gln Glu Glu Gly Asn Met His His Ser  
 180 185 190  
 Cys Glu Cys Ser Asn His His  
 195

<210> 909  
 <211> 124  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 909  
 Phe Ala Phe Ser Lys Phe Leu Ile Ile Lys Ser Ser Met Thr Ala Val  
 1 5 10 15  
 Leu Ile Leu Thr Ser Phe Pro Ser Glu Glu Ser Ala Arg Ser Leu Ala  
 20 25 30  
 Arg His Leu Ile Thr Glu Arg Leu Ala Ser Cys Val His Val Phe Pro  
 35 40 45  
 Lys Gly Thr Ser Thr Tyr Leu Trp Glu Gly Lys Leu Cys Glu Ser Glu  
 50 55 60  
 Glu His His Ile Gln Ile Lys Ser Ile Asp Ile Arg Phe Ser Glu Ile  
 65 70 75 80  
 Cys Leu Ala Ile Gln Glu Phe Ser Gly Tyr Glu Val Pro Glu Val Leu  
 85 90 95  
 Leu Phe Pro Ile Glu Asn Gly Asp Pro Arg Tyr Leu Asn Trp Leu Thr  
 100 105 110  
 Ile Leu Ser Tyr Pro Glu Lys Pro Pro Leu Ser Asp  
 115 120

<210> 910  
 <211> 276  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 910  
 Ile Leu Ala Ile Leu Phe Met Ile Ile Ile Lys Asn Asn Glu Leu Met  
 1 5 10 15  
 Ile Arg Arg Phe Phe Lys Thr Leu Phe Pro Pro Gly Pro Gln Tyr Ser  
 20 25 30  
 Leu Cys Tyr Ala Ser Ile Leu Ile Val Leu Ser Ser Leu Val Cys Val  
 35 40 45  
 Pro Thr Phe Cys Trp Leu Phe Leu Pro Glu Leu Ser Leu Ser Lys Phe  
 50 55 60  
 Asn Pro Ser Pro Ile Arg Asn Leu Phe Leu Val Ser Ser Thr Leu Ser  
 65 70 75 80  
 Lys Val Pro Pro Thr Ala Ile Ala Glu His Leu Arg Leu Ser Ala Asp  
 85 90 95  
 Ala Pro Thr Tyr Leu His Glu Phe Ser Ile Lys Glu Ala Glu Ser Ser  
 100 105 110  
 Leu His Ala Leu Gly Ile Phe Ser Ser Leu Val Ile Glu Lys Ser Pro  
 115 120 125  
 Asp Asn Lys Gly Ile Thr Ile Phe Tyr Thr Leu Gln Thr Pro Ile Ala  
 130 135 140  
 Tyr Val Gly Asn Arg Ser Asn Thr Leu Cys Asn Leu Glu Gly Ser Cys  
 145 150 155 160  
 Phe Leu Gly Gln Pro Tyr Phe Pro Ser Leu Asn Leu Pro Gln Ile Phe  
 165 170 175  
 Phe Ser Gln Glu Asp Leu Lys Met Gln Lys Leu Pro Lys Glu Lys Met  
 180 185 190  
 Leu Phe Thr Lys Ile Leu Leu Lys Glu Leu Ala Met Glu Ser Pro Lys  
 195 200 205  
 Ile Ile Asp Leu Ser Leu Ser Asp Ala Tyr Pro Gly Glu Ile Ile Val  
 210 215 220  
 Thr Leu Ser Ser Gly Ser Leu Leu Arg Leu Pro Ile Lys Thr Leu Asp  
 225 230 235 240  
 Arg Ala Leu Asp Leu Tyr Lys His Met Lys Lys Ser Pro Val Ile Glu  
 245 250 255  
 Ser Glu Lys Gln Tyr Val Tyr Asp Leu Arg Phe Pro Asn Phe Leu Leu  
 260 265 270  
 Leu Lys Ala Leu  
 275

<210> 911  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 911  
 Ile Ile Ser Leu Ile Phe Thr Arg Phe Leu Leu Glu Arg Leu Leu Met  
 1 5 10 15  
 Asn Leu Ser Ala Lys Glu Tyr Gly Asp Ile Ile Val Ile Tyr Leu Gln  
 20 25 30  
 Gly Ser Leu Asp Ala Val Ser Val Pro Ser Val Gln Glu Tyr Leu Glu  
 35 40 45  
 Gln Phe Ile Gln Lys Lys His Leu Lys Ile Ala Leu Asn Phe Thr Asp  
 50 55 60  
 Val Ser Tyr Ile Ser Ser Ala Gly Ile Arg Leu Leu Ser Asn Phe  
 65 70 75 80  
 Lys Leu Val Gln Ser Leu Gly Gly Lys Met Cys Leu Cys Cys Val Lys  
 85 90 95

Glu Ser Val Thr Glu Val Met Arg Ile Ala Gly Leu Asp Gln Leu Ile  
100 105 110  
Leu Leu Cys Gln Ser Glu Gln Glu Cys Leu Ser Lys Leu  
115 120 125

<210> 912  
<211> 345  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 912  
Phe Leu Tyr Met Leu Pro Phe Glu Phe Glu Phe Asn Thr Thr Ser Ser  
1 5 10 15  
Pro Glu Cys Asp Val Cys Leu Asp Pro Gln Lys Leu Phe Val Lys Leu  
20 25 30  
Phe Lys Arg Thr Ile Val Leu Leu Ser Gly Pro Thr Gly Ser Gly Lys  
35 40 45  
Thr Asp Val Ser Leu Ala Leu Ala Pro Met Ile Asp Gly Glu Ile Val  
50 55 60  
Ser Val Asp Ser Met Gln Val Tyr Gln Gly Met Asp Ile Gly Thr Ala  
65 70 75 80  
Lys Val Ser Leu Lys Ala Arg Gln Glu Ile Pro His His Leu Ile Asp  
85 90 95  
Ile Arg His Val Gln Glu Pro Phe Asn Val Val Asp Phe Tyr Tyr Glu  
100 105 110  
Ala Ile Gln Ala Cys Gln Asn Ile Leu Ser Arg Asn Lys Val Pro Ile  
115 120 125  
Leu Val Gly Gly Ser Gly Phe Tyr Phe His Ala Phe Leu Ser Gly Pro  
130 135 140  
Pro Lys Gly Pro Ala Ala Asp Pro Gln Ile Arg Glu Gln Leu Glu Ala  
145 150 155 160  
Ile Ala Glu Glu His Gly Val Ser Ala Leu Tyr Glu Asp Leu Leu Leu  
165 170 175  
Lys Asp Pro Glu Tyr Ala Gln Thr Ile Thr Lys Asn Asp Lys Asn Lys  
180 185 190  
Ile Ile Arg Gly Leu Glu Ile Ile Gln Leu Thr Gly Lys Lys Val Ser  
195 200 205  
Asp His Glu Trp Asp Ile Val Pro Lys Ala Ser Arg Glu Tyr Cys Cys  
210 215 220  
Arg Ala Trp Phe Leu Ser Pro Glu Thr Glu Phe Leu Lys Asn Asn Ile  
225 230 235 240  
Gln Met Arg Cys Glu Ala Met Leu Gln Glu Gly Leu Leu Glu Glu Val  
245 250 255  
Arg Gly Leu Leu Asn Gln Gly Ile Arg Glu Asn Pro Ser Ala Phe Lys  
260 265 270  
Ala Ile Gly Tyr Arg Glu Trp Ile Glu Phe Leu Asp Asn Gly Glu Lys  
275 280 285  
Leu Glu Glu Tyr Glu Glu Thr Lys Arg Lys Phe Val Ser Asn Ser Trp  
290 295 300  
His Tyr Thr Lys Lys Gln Lys Thr Trp Phe Lys Arg Tyr Ser Ile Phe  
305 310 315 320  
Arg Glu Leu Pro Thr Leu Gly Leu Ser Ser Asp Ala Ile Ala Gln Lys  
325 330 335  
Ile Ala Lys Asp Tyr Leu Leu Tyr Ser  
340 345

<210> 913  
<211> 365  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 913

Ser	Leu	Leu	Leu	Ala	Ile	Phe	Asn	Val	Asn	Tyr	Phe	Met	Asn	Leu	Cys
1				5					10					15	
Lys	Arg	Ile	Ser	Phe	Glu	Glu	Gly	Leu	Glu	Leu	Phe	Val	Ser	Ser	Pro
			20					25					30		
Ile	Glu	Arg	Leu	Gln	Glu	Arg	Ala	Asp	Ala	Ile	Arg	Lys	Glu	Arg	Tyr
			35				40					45			
Pro	Ser	Asn	Glu	Val	Thr	Tyr	Val	Leu	Asp	Ala	Asn	Pro	Asn	Tyr	Thr
			50			55					60				
Asn	Ile	Cys	Lys	Ile	Asp	Cys	Thr	Phe	Cys	Ala	Phe	Tyr	Arg	Lys	Pro
65					70					75				80	
Lys	Ser	Pro	Asp	Ala	Tyr	Leu	Leu	Ser	Phe	Asp	Glu	Val	Arg	Ser	Leu
			85						90				95		
Leu	Gln	Arg	Tyr	Val	Ser	Ser	Gly	Val	Lys	Thr	Val	Leu	Leu	Gln	Gly
			100					105					110		
Gly	Val	His	Pro	Gly	Leu	Gly	Ile	Asp	Tyr	Leu	Glu	Glu	Leu	Val	Arg
			115				120					125			
Ile	Thr	Val	Gln	Glu	Phe	Pro	Ser	Ile	His	Pro	His	Phe	Phe	Ser	Ala
			130				135					140			
Val	Glu	Ile	Glu	His	Ala	Cys	Arg	Val	Ser	Gly	Ile	Ser	Ile	Glu	Gln
145					150					155				160	
Gly	Leu	Gln	Arg	Leu	Trp	Asp	Ala	Gly	Gln	Arg	Thr	Ile	Pro	Gly	Gly
			165					170					175		
Gly	Ala	Glu	Ile	Leu	Ser	Glu	Arg	Val	Arg	Lys	Ile	Ile	Ser	Pro	Lys
			180					185					190		
Lys	Met	Gln	Pro	Gly	Gly	Trp	Ile	Asn	Leu	His	Lys	Leu	Ala	His	Leu
			195				200					205			
Met	Gly	Phe	Arg	Thr	Thr	Ala	Thr	Met	Met	Phe	Gly	His	Val	Glu	Asn
			210			215					220				
Pro	Glu	Asp	Ile	Leu	Ile	His	Leu	Gln	Thr	Leu	Arg	Asp	Ala	Gln	Asp
225					230					235				240	
Ser	Cys	Pro	Gly	Phe	Tyr	Ser	Phe	Ile	Pro	Trp	Ser	Tyr	Lys	Pro	Gly
			245					250					255		
Asn	Thr	Ala	Leu	Arg	Arg	Asn	Val	Pro	Gln	Gln	Ala	Ser	Ile	Glu	Thr
			260				265						270		
Tyr	Tyr	Arg	Ile	Leu	Ala	Leu	Gly	Arg	Ile	Phe	Leu	Asp	Asn	Phe	Asp
			275				280					285			
His	Val	Ala	Ala	Ser	Trp	Phe	Gly	Glu	Gly	Lys	Ser	Leu	Gly	Ala	Lys
			290			295				300					
Ala	Leu	His	Tyr	Gly	Ala	Asp	Asp	Phe	Gly	Gly	Val	Ile	Leu	Asp	Glu
305					310					315				320	
Ser	Val	His	Lys	Ala	Thr	Gly	Trp	Ser	Ile	Gln	Ser	Ser	Glu	Glu	Glu
			325					330					335		
Ile	Cys	Asn	Ile	Ile	Arg	Ser	Glu	Gly	Phe	Ile	Pro	Val	Glu	Arg	Asn
			340					345					350		
Thr	Phe	Tyr	Gln	His	Ile	Ser	Cys	Thr	Val	Ser	Ser	Leu			
			355				360					365			

<210> 914

<211> 547

<212> PRT

<213> Chlamydia pneumoniae

<400> 914

Val	Val	Ile	Met	Asp	Asn	Ser	Asp	Asn	Ser	Phe	His	Thr	Leu	Glu	Thr
1				5					10					15	
Glu	Gln	Gly	Ser	Phe	Leu	Asn	Asp	Glu	Leu	Ala	Val	Glu	Glu	Val	Ala
			20					25					30		
Ser	Thr	Glu	Ser	Thr	Glu	Ile	Ser	Asp	Ala	Thr	Leu	Cys	Phe	Ala	Glu
			35				40					45			

Lys	Lys	Val	Ala	Phe	Ile	Leu	Asn	Lys	Met	Arg	Glu	Ala	Leu	Thr	Gly	50	55	60
Ser	Ser	Gln	Gly	Ser	Asp	Leu	Arg	Leu	Phe	Trp	Asp	Leu	Arg	Lys	Gln	65	70	75
Cys	Leu	Pro	Leu	Phe	Asn	Glu	Ile	Glu	Asp	Thr	Ala	Lys	Arg	Ala	Asp	85	90	95
His	Trp	Arg	Cys	Tyr	Ile	Glu	Leu	Thr	Lys	Glu	Gly	Arg	His	Leu	Lys	100	105	110
Gly	Leu	Gln	Asp	Glu	Glu	Gly	Ser	Phe	Val	Val	Gly	Gln	Ile	Asp	Leu	115	120	125
Ala	Ile	Thr	Cys	Leu	Glu	Lys	Asp	Ile	Leu	Lys	Phe	Gln	Glu	Gly	Thr	130	135	140
Glu	Asp	Lys	Ile	Phe	Lys	Asp	Arg	Glu	Asp	Asn	Phe	Leu	Glu	Ser	Gln	145	150	155
Ala	Leu	Asp	Lys	His	Gln	Ala	Phe	Tyr	Lys	Gln	His	His	Thr	Ser	Leu	165	170	175
Leu	Trp	Leu	Ser	Ser	Phe	Ser	Ser	Lys	Ile	Ile	Asp	Leu	Arg	Lys	Glu	180	185	190
Leu	Ile	Asn	Val	Gly	Met	Arg	Met	Arg	Leu	Lys	Ser	Lys	Phe	Phe	Gln	195	200	205
Arg	Leu	Ser	Asn	Leu	Gly	Asn	Gln	Val	Phe	Pro	Lys	Arg	Lys	Glu	Leu	210	215	220
Ile	Glu	Lys	Val	Ser	Gln	Thr	Phe	Ala	Glu	Asp	Val	Asp	Ala	Phe	Val	225	230	235
Ala	Lys	Tyr	Phe	Ile	Gly	Ser	Asp	Lys	Glu	Thr	Leu	Lys	Lys	Thr	Val	245	250	255
Phe	Phe	Leu	Arg	Lys	Glu	Ile	Lys	Asn	Leu	Gln	His	Ala	Ala	Lys	Arg	260	265	270
Leu	Phe	Val	Ser	Ser	His	Val	Phe	Ala	Glu	Thr	Arg	Leu	Lys	Leu	Ser	275	280	285
Lys	Cys	Trp	Asp	Gln	Leu	Lys	Gly	Met	Glu	Lys	Glu	Ile	Arg	Gln	Glu	290	295	300
Gln	Gly	Arg	Leu	Arg	Val	Val	Ser	Ala	Glu	Asn	Ser	Lys	Glu	Val	Arg	305	310	315
Gln	Met	Leu	Ala	Glu	Val	Ser	Ser	Leu	Leu	Ile	Glu	Gly	Asn	Asp	Leu	325	330	335
Ser	Lys	Val	Arg	Lys	Asp	Leu	Glu	Gly	Ile	Ser	Lys	Lys	Ile	Arg	Ala	340	345	350
Leu	Asp	Leu	Thr	His	Asp	Asp	Val	Ile	Ser	Leu	Lys	Lys	Glu	Met	Gln	355	360	365
Gln	Leu	Phe	Asp	Gln	Leu	Arg	Glu	Lys	Gln	Asp	Ala	Ala	Glu	His	Ser	370	375	380
Tyr	Gln	Glu	Gln	Leu	Ala	Lys	Asp	Lys	Gln	Val	Lys	Lys	Glu	Ala	Ala	385	390	395
Arg	Ser	Leu	Ala	Glu	Arg	Ile	Thr	Thr	Phe	Ser	Lys	Thr	Cys	Ser	Glu	405	410	415
Gly	Asn	Ile	Thr	Ser	Glu	Ser	Arg	Glu	Glu	Trp	Gln	Thr	Leu	Lys	Glu	420	425	430
Leu	Leu	Gly	Lys	Met	Ser	Phe	Leu	Pro	Pro	Pro	Glu	Lys	Ile	Ser	Leu	435	440	445
Asp	Asn	Gln	Leu	Asn	Leu	Ala	Leu	Gln	Thr	Ile	Val	Asn	Phe	Phe	Glu	450	455	460
Glu	Gln	Leu	Leu	Ser	Ser	Pro	Asp	Ser	Arg	Glu	Lys	Leu	Val	Asn	Met	465	470	475
Arg	Gln	Val	Leu	Lys	Gln	Arg	Arg	Glu	Arg	Arg	Gln	Glu	Leu	Lys	Asp	485	490	495
Lys	Leu	Glu	Gln	Asp	Lys	Lys	Leu	Leu	Gly	Ser	Ser	Gly	Leu	Asp	Phe	500	505	510
Asp	Arg	Ala	Met	Gln	Tyr	Ser	Ala	Leu	Val	Glu	Glu	Asp	Lys	Arg	Ala	515	520	525

Leu Glu Glu Leu Asp Ala Ser Ile Leu Glu Leu Lys Gln Gln Ile Gln  
 530 535 540  
 Gln Leu Leu  
 545

<210> 915  
 <211> 79  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 915  
 Arg Ile Gly Cys Lys Tyr Phe Arg Ile Glu Ala Thr Asp Ser Ala Ile  
 1 5 10 15  
 Ala Met Arg Arg Asn Cys Ile Tyr Ala Phe Asp Leu Asp Gly Thr Leu  
 20 25 30  
 Leu Lys Gly Asn Ser Ser Trp Ser Phe Tyr Cys Tyr Gly Leu Leu Gln  
 35 40 45  
 Gly Leu Phe Ser Tyr Lys Thr Leu Pro Pro Cys Ile Tyr Arg Phe Phe  
 50 55 60  
 Arg Phe Lys Phe Phe Phe Gly Ile Phe His Pro Ser Ile Ile Arg  
 65 70 75

<210> 916  
 <211> 163  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 916  
 Val Phe Phe Trp Asp Leu Pro Ser Phe Tyr Tyr Ser Ile Val Thr Arg  
 1 5 10 15  
 Leu Leu Ser Ser Val Pro Cys Asp Asp Leu Tyr Glu Val Ala Leu Asn  
 20 25 30  
 Phe Val Ser Thr Leu Thr Gly Ser Asp Phe Tyr Ala Pro Val Leu Glu  
 35 40 45  
 Lys Leu Glu Glu Ala Phe Ala Asp Thr Thr Gly Gln Val Ile Leu Phe  
 50 55 60  
 Ser Ser Ser Pro Asp Phe Ile Val His Pro Ile Ala Gln Gln Leu Gly  
 65 70 75 80  
 Ile Ser Ser Trp Tyr Ala Ser Cys Tyr Arg Asp Gln Ser Ala Glu Gln  
 85 90 95  
 Thr Ile Tyr Lys Lys Cys Leu Thr Gly Asp Lys Lys Ala Gln Ile Leu  
 100 105 110  
 Ser Tyr Ile Lys Lys Ile Asn Gln Ala Arg Ser His Thr Phe Ser Asp  
 115 120 125  
 His Ile Leu Asp Leu Pro Phe Leu Met Leu Gly Glu Glu Lys Thr Val  
 130 135 140  
 Val Arg Pro Gln Gly Arg Leu Lys Lys Met Ala Lys Lys Tyr Tyr Trp  
 145 150 155 160  
 Asn Ile Val

<210> 917  
 <211> 139  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 917  
 Phe His Leu Lys Lys Ser Ser Thr Leu Ser Trp Ile Ile Glu Tyr Pro  
 1 5 10 15  
 Lys Ala Gly Phe Met Asp Ser Phe Cys Phe Asp Leu Leu Lys Val Ala  
 20 25 30



Ala Lys Ala Ile Asp Asp Lys Lys Gly Asn Asn Leu Val Val Leu Asp  
35 40 45  
Val Arg Thr Ile Ser Glu Phe Thr Asp Tyr Phe Val Phe Val Glu Gly  
50 55 60  
Ser Val Asn Val His Val Lys Ala Leu Ala Asn Thr Ile Val Glu Glu  
65 70 75 80  
Leu Lys Lys Gln Lys Val Ser Pro Leu His Val Glu Gly Ile Thr Asp  
85 90 95  
Gly Asn Trp Val Val Ile Asp Tyr Gly Phe Ile Val Val His Val Phe  
100 105 110  
Val Ser Glu Ile Arg Gly Lys Tyr Arg Leu Glu Glu Leu Trp Lys Asp  
115 120 125  
Gly Phe Ile Val Thr Ser Lys Leu Leu Ala Ser  
130 135

<210> 918

<211> 424

<212> PRT

<213> Chlamydia pneumoniae

<400> 918

Leu Leu Asn Gly Val Arg Val Tyr Met Ser Lys Lys Arg Val Val Val  
1 5 10 15  
Thr Gly Phe Gly Val Val Ser Cys Leu Gly Asn Glu Val Asp Thr Phe  
20 25 30  
Tyr Asp Asn Leu Leu Ala Gly Val Ser Gly Val Arg Pro Ile Thr Ser  
35 40 45  
Phe Pro Cys Glu Asp Tyr Ala Thr Arg Phe Ala Gly Trp Ile Pro Glu  
50 55 60  
Phe Asn Pro Glu Pro Tyr Val Asp Lys Lys Gln Ala Arg Arg Val Asp  
65 70 75 80  
Pro Phe Ile Thr Tyr Ala Met Val Ala Ala Lys Lys Ala Ile Ala Met  
85 90 95  
Ser Arg Trp Asp Lys Asp His Leu Pro Ser Asp Pro Val Arg Cys Gly  
100 105 110  
Val Ile Val Gly Ser Gly Met Gly Gly Leu Ser Thr Leu Asp Gln Gly  
115 120 125  
Met Glu Arg Leu Leu Val Ile His Lys Lys Leu Ser Pro Phe Phe Ile  
130 135 140  
Pro Tyr Ile Ile Thr Asn Met Ala Pro Ala Leu Ile Ala Met Asp Phe  
145 150 155 160  
Gly Leu Met Gly Pro Asn Tyr Ser Ile Ser Thr Ala Cys Ala Thr Gly  
165 170 175  
Asn Tyr Cys Ile Asp Ala Ala Tyr Gln His Leu Val Ser Gly Arg Ala  
180 185 190  
Asp Met Ile Ile Cys Gly Gly Thr Glu Ala Ala Val Asn Arg Ile Gly  
195 200 205  
Leu Glu Gly Phe Ile Ala Asn Arg Ala Leu Ser Glu Arg Asn Asp Ala  
210 215 220  
Pro Asp Gln Ala Ser Arg Pro Trp Asp Arg Asp Arg Asp Gly Phe Val  
225 230 235 240  
Leu Gly Glu Gly Ala Gly Ile Leu Val Leu Glu Thr Leu Glu Ser Ala  
245 250 255  
Leu Arg Arg Asp Ala Pro Ile Phe Ala Glu Met Leu Gly Ser Tyr Val  
260 265 270  
Thr Cys Asp Ala Phe His Ile Thr Ala Pro Arg Asp Asp Gly Glu Gly  
275 280 285  
Ile Thr Ala Cys Val Leu Gly Ala Leu Asn Ser Ala Gly Ile Pro Lys  
290 295 300  
Glu Arg Val Asn Tyr Val Asn Ala His Gly Thr Ser Thr Pro Leu Gly  
305 310 315 320

Asp Leu Ser Glu Val Leu Ala Val Lys Lys Ala Phe Gly Ser His Val  
 325 330 335  
 Arg Asn Leu Arg Met Asn Ser Thr Lys Ser Leu Ile Gly His Cys Leu  
 340 345 350  
 Gly Ala Ala Gly Gly Val Glu Ala Val Val Ala Ile Gln Ala Ile Leu  
 355 360 365  
 Thr Gly Lys Leu His Pro Thr Ile Asn Leu Asp Asn Pro Ile Ala Glu  
 370 375 380  
 Ile Glu Asp Phe Asp Val Val Ala Asn Lys Ala Gln Asp Trp Asp Ile  
 385 390 395 400  
 Asp Val Ala Met Ser Asn Ser Phe Gly Phe Gly Gly His Asn Ser Thr  
 405 410 415  
 Ile Leu Phe Ser Arg Tyr Val Pro  
 420

<210> 919  
 <211> 162  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 919  
 Phe Asn Asp Ile Ile Leu Glu Val Cys Thr Leu Val Met Met Lys Thr  
 1 5 10 15  
 Lys Tyr Glu Tyr Ser Phe Gly Val Ile Pro Ile Lys Phe Phe Gly Thr  
 20 25 30  
 Pro Asp Lys Asn Thr Leu Lys Ala Cys Phe Ile Cys His Thr Arg Gly  
 35 40 45  
 Lys His Trp Gly Phe Pro Lys Gly His Ser Glu Asp Lys Glu Gly Pro  
 50 55 60  
 Gln Glu Ala Ala Glu Arg Glu Leu Val Glu Glu Thr Gly Leu Ser Val  
 65 70 75 80  
 Val Asn Phe Phe Pro Lys Val Leu Ile Glu Gln Tyr Ser Phe Asn Asn  
 85 90 95  
 Glu Glu Gln Val Phe Val Arg Lys Glu Val Thr Tyr Phe Leu Ala Glu  
 100 105 110  
 Val Arg Gly Asp Ile His Ala Asp Pro Met Glu Ile Cys Asp Ser Gln  
 115 120 125  
 Trp Leu Ser Leu Gln Glu Gly Leu Arg Leu Leu Ser Phe Pro Glu Leu  
 130 135 140  
 Arg Asp Leu Thr Val Glu Ala Asp Lys Phe Ile Asn Asn Tyr Leu Phe  
 145 150 155 160  
 Ser Ser

<210> 920  
 <211> 218  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 920  
 Glu Leu Leu Met Ser Lys Lys Pro Leu Tyr Val Ala His Pro Trp His  
 1 5 10 15  
 Ser Pro Thr Leu Thr Gln Asp Asn Tyr Glu Ser Leu Cys Cys Tyr Ile  
 20 25 30  
 Glu Ile Thr Pro Tyr Asp Ser Val Lys Phe Glu Leu Asp Lys Ala Thr  
 35 40 45  
 Gly Leu Leu Lys Val Asp Arg Pro Gln Lys Phe Ser Asn Phe Cys Pro  
 50 55 60  
 Cys Leu Tyr Gly Leu Leu Pro Gln Thr Tyr Cys Gly Thr Ala Ser Gly  
 65 70 75 80

Asn	Tyr	Ser	Gly	Glu	Gln	Thr	Arg	Arg	Glu	Gly	Ile	Gln	Gly	Asp	Lys
				85					90					95	
Asp	Pro	Leu	Asp	Val	Cys	Val	Leu	Thr	Glu	Lys	Asn	Ile	His	His	Gly
			100					105					110		
Asn	Ile	Leu	Leu	Gln	Ala	Arg	Pro	Ile	Gly	Gly	Leu	Arg	Ile	Ile	Asp
			115				120					125			
Ser	Gly	Glu	Ala	Asp	Asp	Lys	Ile	Ile	Ala	Val	Leu	Glu	Asp	Asp	Leu
	130					135					140				
Val	Phe	Ala	Glu	Ile	Glu	Asp	Ile	Ser	Asp	Cys	Pro	Gly	Thr	Val	Leu
	145				150					155					160
Asp	Met	Ile	Gln	His	Tyr	Phe	Leu	Thr	Tyr	Lys	Ala	Thr	Pro	Asn	His
				165					170					175	
Leu	Ile	Lys	Gly	Ser	Pro	Ala	Lys	Ile	Glu	Ile	Val	Gly	Ile	Tyr	Gly
			180					185					190		
Lys	Lys	Glu	Ala	Gln	Lys	Val	Ile	Gln	Leu	Ala	His	Glu	Asp	Tyr	Leu
		195				200						205			
Ser	Tyr	Ile	Gly	Asp	Thr	Ala	Glu	Val	Asn						
	210					215									

<210> 921

<211> 352

<212> PRT

<213> Chlamydia pneumoniae

<400> 921

Phe	Met	Lys	Tyr	Ser	Leu	Asn	Phe	Lys	Glu	Ile	Lys	Ile	Asp	Asp	Tyr
1				5					10				15		
Glu	Arg	Val	Ile	Glu	Val	Thr	Cys	Ser	Lys	Val	Arg	Leu	His	Ala	Ile
			20					25					30		
Ile	Ala	Ile	His	Gln	Thr	Ala	Val	Gly	Pro	Ala	Leu	Gly	Gly	Val	Arg
		35				40						45			
Ala	Ser	Leu	Tyr	Ser	Ser	Phe	Glu	Asp	Ala	Cys	Thr	Asp	Ala	Leu	Arg
	50					55				60					
Leu	Ala	Arg	Gly	Met	Thr	Tyr	Lys	Ala	Ile	Ile	Ser	Asn	Thr	Gly	Thr
	65			70					75				80		
Gly	Gly	Gly	Lys	Ser	Val	Ile	Ile	Leu	Pro	Gln	Asp	Ala	Pro	Ser	Leu
			85					90					95		
Thr	Glu	Asp	Met	Leu	Arg	Ala	Phe	Gly	Gln	Ala	Val	Asn	Ala	Leu	Glu
			100					105					110		
Gly	Thr	Tyr	Ile	Cys	Ala	Glu	Asp	Leu	Gly	Val	Ser	Ile	Asn	Asp	Ile
		115				120						125			
Ser	Ile	Val	Ala	Glu	Glu	Thr	Pro	Tyr	Val	Cys	Gly	Ile	Ala	Asp	Val
	130					135				140					
Ser	Gly	Asp	Pro	Ser	Ile	Tyr	Thr	Ala	His	Gly	Gly	Phe	Leu	Cys	Ile
	145				150					155				160	
Lys	Glu	Thr	Ala	Lys	Tyr	Leu	Trp	Gly	Ser	Ser	Ser	Leu	Arg	Gly	Lys
			165					170					175		
Lys	Ile	Ala	Ile	Gln	Gly	Ile	Gly	Ser	Val	Gly	Arg	Arg	Leu	Leu	Gln
		180						185					190		
Ser	Leu	Phe	Phe	Glu	Gly	Ala	Glu	Leu	Tyr	Val	Ala	Asp	Val	Leu	Glu
		195				200						205			
Arg	Ala	Val	Gln	Asp	Ala	Ala	Arg	Leu	Tyr	Gly	Ala	Thr	Ile	Val	Pro
	210				215						220				
Thr	Glu	Glu	Ile	His	Ala	Leu	Glu	Cys	Asp	Ile	Phe	Ser	Pro	Cys	Ala
	225			230						235				240	
Arg	Gly	Asn	Val	Ile	Arg	Lys	Asp	Asn	Leu	Ala	Asp	Leu	Asn	Cys	Lys
			245					250						255	
Ala	Ile	Val	Gly	Val	Ala	Asn	Asn	Gln	Leu	Glu	Asp	Ser	Ser	Ala	Gly
		260						265					270		
Met	Met	Leu	His	Glu	Arg	Gly	Ile	Leu	Tyr	Gly	Pro	Asp	Tyr	Leu	Val
		275					280					285			

Asn Ala Gly Gly Leu Leu Asn Val Ala Ala Ala Ile Glu Gly Arg Val  
 290 295 300  
 Tyr Ala Pro Lys Glu Val Leu Leu Lys Val Glu Glu Leu Pro Ile Val  
 305 310 315 320  
 Leu Ser Lys Leu Tyr Asn Gln Ser Lys Thr Thr Gly Lys Asp Leu Val  
 325 330 335  
 Ala Leu Ser Asp Ser Phe Val Glu Asp Lys Leu Leu Ala Tyr Thr Ser  
 340 345 350

<210> 922  
 <211> 331  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 922  
 Ile Leu Glu Glu Asn Ser Met His Ser Glu Leu Pro Asn Tyr Gln Asn  
 1 5 10 15  
 Ile Val Glu Ser Val Val Thr Glu Ile Thr Thr Gln Leu Leu Asn Tyr  
 20 25 30  
 Arg Ser Glu His Arg Leu Val Pro Phe Trp Glu Lys Ser Asp Gly Ser  
 35 40 45  
 Phe Ile Thr Ala Ala Asp Tyr Gly Ser Gln Tyr Tyr Leu Lys Gln Gln  
 50 55 60  
 Leu Ala Lys Ala Phe Pro Asn Ile Pro Phe Ile Gly Glu Glu Thr Leu  
 65 70 75 80  
 Tyr Pro Asp Gln Asp Asn Glu Lys Ile Pro Glu Ile Leu Lys Phe Thr  
 85 90 95  
 Arg Leu Leu Thr Ser Ser Val Ser Arg Asp Asp Leu Ile Ser Thr Leu  
 100 105 110  
 Val Pro Pro Pro Ser Pro Thr Ser Leu Phe Trp Leu Val Asp Pro Ile  
 115 120 125  
 Asp Gly Thr Ala Gly Phe Ile Arg His Arg Ala Phe Ala Val Ala Ile  
 130 135 140  
 Ser Leu Ile Tyr Glu Tyr Arg Pro Ile Leu Ser Val Met Ala Cys Pro  
 145 150 155 160  
 Ala Tyr Asn Gln Thr Phe Lys Leu Tyr Ser Ala Ala Lys Gly His Gly  
 165 170 175  
 Leu Ser Ile Val His Ser Gln Asn Leu Asp Arg Arg Phe Val Tyr Ala  
 180 185 190  
 Asp Arg Lys Gln Thr Lys Gln Phe Cys Glu Ala Ser Leu Ala Ala Leu  
 195 200 205  
 Asn Gln Gln His His Ala Thr Arg Lys Leu Ser Leu Gly Leu Pro Asn  
 210 215 220  
 Thr Pro Ser Pro Arg Arg Val Glu Ser Gln Tyr Lys Tyr Ala Leu Val  
 225 230 235 240  
 Ala Glu Gly Ala Val Asp Phe Phe Ile Arg Tyr Pro Phe Ile Asp Ser  
 245 250 255  
 Pro Ala Arg Ala Trp Asp His Val Pro Gly Ala Phe Leu Val Glu Glu  
 260 265 270  
 Ala Gly Gly Arg Val Thr Asp Ala Leu Gly Ala Pro Leu Glu Tyr Arg  
 275 280 285  
 Lys Glu Ser Leu Val Leu Asn Asn His Ala Val Ile Leu Ala Ser Gly  
 290 295 300  
 Asp Gln Glu Thr His Glu Thr Thr Leu Ala Ala Leu Gln Asn Gln Leu  
 305 310 315 320  
 Asn Val Val Pro Thr Asp Lys Leu Ile Ala Leu  
 325 330

<210> 923  
 <211> 256  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 923  
 Gly Glu Leu Met Leu Ile Lys Leu Trp Arg Ala Thr Tyr Glu Gly Met  
 1 5 10 15  
 Tyr Thr Phe Leu Val Gly Ala Leu Leu Lys Leu Arg Tyr Arg Met Gln  
 20 25 30  
 Val Glu Gly Trp Asp Thr Leu Asn Ile Asn Pro Lys Gln Gly Cys Leu  
 35 40 45  
 Phe Leu Ala Asn His Val Ala Glu Val Asp Pro Ile Ile Leu Glu Tyr  
 50 55 60  
 Leu Phe Trp Ser Arg Phe His Val Arg Pro Met Ala Val Glu Tyr Leu  
 65 70 75 80  
 Phe His Ser Arg Val Val Gln Trp Phe Leu Asn Ser Val Arg Ser Ile  
 85 90 95  
 Pro Ile Pro Gln Leu Val Pro Gly Lys Glu Ser Lys Arg Ser Leu Glu  
 100 105 110  
 Arg Met Asn Val Cys Tyr Glu Glu Ala Ser Arg Ala Leu Asn Arg Gly  
 115 120 125  
 Glu Ser Leu Leu Leu Tyr Pro Ser Gly Arg Leu Ser Arg Thr Gly Lys  
 130 135 140  
 Glu Glu Ile Val Asn Gln Tyr Ser Ala Tyr Val Leu Leu His Arg Val  
 145 150 155 160  
 Met Glu Cys Asn Val Val Leu Val Arg Val Ser Gly Leu Trp Gly Ser  
 165 170 175  
 Ala Phe Ser Arg Tyr Lys Gln Asn Ser Thr Pro Lys Leu Gly Pro Ala  
 180 185 190  
 Phe Lys Glu Ala Phe Arg Ala Leu Leu Arg Arg Gly Ile Phe Phe Met  
 195 200 205  
 Pro Lys Arg Phe Val Lys Ile Thr Leu Cys Gln Val Asp His Leu Phe  
 210 215 220  
 Leu Lys Gln Phe Pro Thr Lys Gln Asp Leu Asn Thr Phe Leu Ala Ser  
 225 230 235 240  
 Trp Phe Asn Gln Gly Asp Asp Asn Leu Pro Ile Glu Val Pro Tyr Ala  
 245 250 255

<210> 924  
 <211> 554  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 924  
 Gln Phe Ala His Arg Ser Ser Leu Arg Ile Thr Arg Lys Leu Arg Arg  
 1 5 10 15  
 Met His Asp Gln Arg Asn Arg Gly His Asn Asn His Asn Leu Arg Leu  
 20 25 30  
 Arg Pro Gly Ser Thr Leu Leu Glu Ala Phe Leu Ile Leu Cys Ser Glu  
 35 40 45  
 His Glu Glu Gly Ile Ala Cys Phe Asp Glu His Leu Gly Ser Leu Ser  
 50 55 60  
 Tyr Arg Glu Leu Arg Asn Ala Ile Ile Ala Val Ala Ile Lys Val Ser  
 65 70 75 80  
 Lys Phe Ser Glu Asp Arg Val Gly Val Met Met Pro Ala Ser Ile Gly  
 85 90 95  
 Ala Phe Ile Ala Tyr Phe Gly Ile Leu Leu Ala Gly Lys Thr Pro Val  
 100 105 110  
 Met Met Asn Trp Ser Gln Gly Leu Arg Glu Leu Arg Ala Cys Thr Lys  
 115 120 125

Thr	Val	Glu	Val	Arg	Arg	Val	Leu	Thr	Ser	Gln	Gln	Phe	Ile	Lys	His
130						135					140				
Leu	Thr	Glu	Val	Gln	Gly	Phe	Val	Glu	Tyr	Pro	Phe	Asp	Leu	Met	Tyr
145					150					155					160
Met	Glu	Asp	Val	Arg	Lys	Arg	Leu	Ser	Trp	Trp	Glu	Lys	Cys	Arg	Ile
				165					170					175	
Gly	Leu	Tyr	Ser	Lys	Cys	Ser	Val	Pro	Trp	Leu	Leu	Arg	Ile	Phe	Gly
			180						185					190	
Val	Ser	Gly	Val	Glu	Ser	Asp	Asp	Thr	Ala	Val	Ile	Leu	Phe	Thr	Ser
		195					200					205			
Gly	Thr	Glu	Lys	Leu	Pro	Lys	Ala	Val	Pro	Leu	Thr	His	Lys	Asn	Leu
	210					215					220				
Met	Glu	Asn	Gln	Glu	Ala	Cys	Leu	Lys	Phe	Phe	Asp	Pro	Asn	Thr	Gln
225					230					235					240
Asp	Val	Met	Leu	Ala	Phe	Leu	Pro	Pro	Phe	His	Ala	Tyr	Gly	Phe	Asn
				245					250					255	
Ser	Cys	Gly	Leu	Phe	Pro	Leu	Leu	Met	Gly	Val	His	Val	Val	Phe	Ala
			260					265					270		
Ser	Asn	Pro	Leu	Asn	Pro	Lys	Lys	Leu	Val	Glu	Phe	Ile	Asp	Asp	Lys
		275				280						285			
Lys	Val	Thr	Phe	Phe	Gly	Ser	Thr	Pro	Val	Phe	Phe	Asp	Tyr	Ile	Leu
	290					295					300				
Lys	Thr	Ala	Lys	Lys	Gln	Asn	Ser	Cys	Leu	Glu	Ser	Leu	Arg	Leu	Val
305					310					315					320
Val	Ile	Gly	Gly	Asp	Ala	Leu	Lys	Asp	Thr	Leu	Tyr	Glu	Glu	Thr	Lys
				325					330					335	
Lys	Leu	Gln	Pro	Gln	Ile	Ala	Leu	Tyr	Gln	Gly	Tyr	Gly	Ala	Thr	Glu
			340					345					350		
Cys	Ser	Pro	Val	Ile	Ser	Ile	Thr	Thr	Lys	Glu	Ser	Pro	Arg	Lys	Ser
		355					360					365			
Glu	Cys	Val	Gly	Met	Pro	Ile	Glu	Gly	Met	Asp	Val	Leu	Ile	Ile	Ser
	370					375				380					
Lys	Glu	Thr	His	Ile	Pro	Val	Ser	Ser	Gly	Glu	Gln	Gly	Leu	Ile	Val
385					390					395					400
Val	Arg	Gly	Asn	Ser	Val	Phe	Ser	Gly	Tyr	Leu	Gly	Asn	His	Glu	His
			405						410					415	
Gln	Ser	Phe	Val	Ser	Leu	Gly	Gly	Asp	Gln	Trp	Tyr	Leu	Thr	Gly	Asp
			420					425					430		
Leu	Gly	His	Ile	Gly	Pro	Ser	Gly	Asp	Leu	Phe	Leu	Glu	Gly	Arg	Leu
		435					440					445			
Ser	Arg	Phe	Val	Lys	Ile	Gly	Gly	Glu	Met	Val	Ser	Leu	Glu	Ala	Leu
	450					455					460				
Glu	Ser	Ile	Leu	His	Glu	His	Phe	Thr	Glu	Asn	Gln	Asn	Glu	Asp	Ala
465					470					475					480
Gly	Ser	Leu	Val	Val	Cys	Gly	Ile	Pro	Gly	Asp	Lys	Val	Arg	Leu	Cys
			485						490					495	
Leu	Phe	Thr	Thr	Leu	Ala	Thr	Thr	Ile	His	Glu	Val	Asn	Asp	Ile	Leu
			500					505					510		
Lys	Ser	Ala	Glu	Thr	Ser	Ser	Ile	Val	Lys	Ile	Ser	Tyr	Val	His	Gln
		515					520					525			
Val	Glu	Ser	Ile	Pro	Ile	Leu	Gly	Ile	Gly	Lys	Pro	Asp	Tyr	Val	Ser
	530					535					540				
Leu	Asn	Ala	Leu	Ala	Val	Ser	Leu	Phe	Gly						
545						550									

<210> 925

<211> 376

<212> PRT

<213> Chlamydia pneumoniae

<400> 925

Val	Cys	Lys	Glu	Ser	Phe	Leu	Thr	Thr	Ser	Asp	Val	Ile	Asp	Phe	Val
1				5					10					15	
Thr	Asn	Asp	Phe	Leu	Gly	Phe	Ala	Arg	Ser	Pro	Thr	Ile	Tyr	Cys	Glu
			20					25					30		
Val	Ser	Lys	Arg	Phe	Gln	Ile	His	Cys	Gln	Gln	Phe	Pro	His	Glu	Lys
		35				40					45				
Leu	Gly	Ile	Arg	Gly	Ser	Arg	Leu	Met	Val	Gly	Pro	Ser	Ser	Val	Ile
	50					55				60					
Asp	Asp	Leu	Glu	Ser	Lys	Ile	Ala	Ser	Tyr	His	Gly	Ala	Pro	Asn	Ala
65					70					75				80	
Phe	Ile	Val	Asn	Ser	Gly	Tyr	Met	Ala	Asn	Leu	Gly	Leu	Cys	His	His
			85						90					95	
Val	Ser	Arg	Ser	Thr	Asp	Val	Leu	Leu	Trp	Asp	Glu	Glu	Val	His	Met
			100					105					110		
Ser	Val	Val	His	Ser	Leu	Ser	Ala	Ile	Ser	Gly	Gln	His	His	Thr	Phe
		115					120					125			
His	His	Asn	Asn	Leu	Glu	His	Leu	Glu	Ser	Leu	Leu	Gln	Cys	Tyr	Arg
	130					135					140				
Ile	Ser	Ser	Lys	Gly	Arg	Ile	Phe	Ile	Phe	Val	Ser	Ser	Val	Tyr	Ser
145				150						155				160	
Phe	Arg	Gly	Thr	Leu	Ala	Pro	Leu	Glu	Gln	Ile	Ile	Ala	Leu	Ser	Lys
			165					170						175	
Lys	Tyr	His	Ala	His	Leu	Ile	Val	Asp	Glu	Ala	His	Ala	Met	Gly	Ile
			180					185					190		
Phe	Gly	Asp	Asp	Gly	Lys	Gly	Leu	Cys	His	Ala	Leu	Gly	Tyr	Glu	Asn
		195					200					205			
Phe	Tyr	Ala	Val	Leu	Val	Thr	Tyr	Gly	Lys	Ala	Leu	Gly	Thr	Met	Gly
	210					215					220				
Ala	Ser	Leu	Leu	Thr	Ser	Glu	Val	Lys	Tyr	Asp	Leu	Met	Gln	Asn	
225					230					235				240	
Ser	Pro	Pro	Leu	Arg	Tyr	Ser	Thr	Ser	Leu	Ser	Pro	His	Thr	Leu	Ile
			245						250					255	
Ser	Ile	Gly	Thr	Ala	Tyr	Asp	Phe	Leu	Ala	Ser	Glu	Gly	Glu	Ile	Ala
			260					265					270		
Arg	Lys	Gln	Val	Phe	Lys	Leu	Lys	Glu	His	Phe	His	Glu	Cys	Phe	Asp
		275					280					285			
Ser	His	Ala	Pro	Gly	Cys	Val	Gln	Pro	Ile	Phe	Leu	Pro	His	Thr	Cys
	290					295					300				
Leu	Glu	Glu	Ala	Ile	Ser	Val	Leu	Glu	Thr	Thr	Gly	Ile	His	Val	Gly
305					310					315				320	
Val	Val	Ala	Phe	Ala	Lys	His	Pro	Phe	Leu	Arg	Val	Asn	Leu	His	Ala
			325					330						335	
Tyr	Asn	Thr	Val	Asp	Glu	Val	Asn	Leu	Leu	Ala	Gln	Val	Met	Lys	Pro
			340					345					350		
Tyr	Leu	Glu	Lys	Ser	Ser	His	Arg	Val	His	Ile	Asn	His	Glu	Phe	His
		355					360					365			
Leu	Trp	Arg	Glu	Leu	Cys	Gln	His								
	370					375									

<210> 926

<211> 758

<212> PRT

<213> Chlamydia pneumoniae

<400> 926

Lys	Arg	Phe	Thr	Ala	Lys	Thr	Lys	Ser	Met	Gly	Tyr	Ile	Glu	Ser	Ser
1				5					10					15	
Thr	Phe	Arg	Leu	Tyr	Ala	Glu	Val	Ile	Val	Gly	Ser	Asn	Ile	Asn	Lys
			20					25					30		

Val	Leu	Asp	Tyr	Gly	Val	Pro	Glu	Asn	Leu	Glu	His	Ile	Thr	Lys	Gly	
		35					40					45				
Thr	Ala	Val	Thr	Ile	Ser	Leu	Arg	Gly	Gly	Lys	Lys	Val	Gly	Val	Ile	
	50					55					60					
Tyr	Gln	Ile	Lys	Thr	Thr	Thr	Gln	Cys	Lys	Lys	Ile	Leu	Pro	Ile	Leu	
65				70					75						80	
Gly	Leu	Ser	Asp	Ser	Glu	Ile	Val	Leu	Pro	Gln	Asp	Leu	Leu	Asp	Leu	
				85					90					95		
Leu	Phe	Trp	Ile	Ser	Gln	Tyr	Tyr	Phe	Ala	Pro	Leu	Gly	Lys	Thr	Leu	
		100						105					110			
Lys	Leu	Phe	Leu	Pro	Ala	Ile	Ser	Ser	Asn	Val	Ile	Gln	Pro	Lys	Gln	
		115					120					125				
His	Tyr	Arg	Val	Val	Leu	Lys	Gln	Ser	Lys	Ala	Lys	Thr	Lys	Glu	Ile	
	130					135					140					
Leu	Ala	Lys	Leu	Glu	Val	Leu	His	Pro	Ser	Gln	Gly	Ala	Val	Leu	Lys	
145				150						155					160	
Ile	Leu	Leu	Gln	His	Ala	Ser	Pro	Pro	Gly	Leu	Ser	Ser	Leu	Met	Glu	
			165						170					175		
Thr	Ala	Lys	Val	Ser	Gln	Ser	Pro	Ile	His	Ser	Leu	Glu	Lys	Leu	Gly	
		180						185					190			
Ile	Leu	Asp	Ile	Val	Asp	Ala	Ala	Gln	Leu	Glu	Leu	Gln	Glu	Asp	Leu	
	195						200					205				
Leu	Thr	Phe	Phe	Pro	Pro	Ala	Pro	Lys	Asp	Leu	His	Pro	Glu	Gln	Gln	
	210					215					220					
Ser	Ala	Ile	Asp	Lys	Ile	Phe	Ser	Ser	Leu	Lys	Thr	Ser	Gln	Phe	His	
225				230						235					240	
Thr	His	Leu	Leu	Phe	Gly	Ile	Thr	Gly	Ser	Gly	Lys	Thr	Glu	Ile	Tyr	
			245					250						255		
Leu	Arg	Ala	Thr	Ser	Glu	Ala	Leu	Lys	Gln	Gly	Lys	Ser	Thr	Ile	Leu	
		260					265						270			
Leu	Val	Pro	Glu	Ile	Ala	Leu	Thr	Val	Gln	Thr	Val	Ser	Leu	Phe	Lys	
	275						280					285				
Ala	Arg	Phe	Gly	Lys	Asp	Val	Gly	Val	Leu	His	His	Lys	Leu	Ser	Asp	
	290					295					300					
Ser	Asp	Lys	Ser	Arg	Thr	Trp	Arg	Gln	Ala	Ser	Glu	Gly	Ser	Leu	Arg	
305				310						315					320	
Ile	Leu	Ile	Gly	Pro	Arg	Ser	Ala	Leu	Phe	Cys	Pro	Met	Lys	Asn	Leu	
			325					330						335		
Gly	Leu	Ile	Ile	Val	Asp	Glu	Glu	His	Asp	Pro	Ala	Tyr	Lys	Gln	Thr	
		340					345						350			
Glu	Ser	Pro	Pro	Cys	Tyr	His	Ala	Arg	Asp	Val	Ala	Val	Met	Arg	Gly	
	355						360					365				
Lys	Leu	Ala	His	Ala	Thr	Val	Val	Leu	Gly	Ser	Ala	Thr	Pro	Ser	Leu	
	370					375					380					
Glu	Ser	Tyr	Thr	Asn	Ala	Leu	Ser	Gly	Lys	Tyr	Val	Leu	Ser	Arg	Leu	
385				390						395					400	
Ser	Ser	Arg	Ala	Ala	Ala	Ala	His	Pro	Ala	Lys	Ile	Ser	Leu	Ile	Asn	
			405						410					415		
Met	Asn	Leu	Glu	Arg	Glu	Lys	Ser	Lys	Thr	Lys	Ile	Leu	Phe	Ser	Gln	
		420						425					430			
Pro	Val	Leu	Lys	Lys	Ile	Ala	Glu	Arg	Leu	Glu	Val	Gly	Glu	Gln	Val	
	435						440					445				
Leu	Ile	Phe	Phe	Asn	Arg	Arg	Gly	Tyr	His	Thr	Asn	Val	Ser	Cys	Thr	
	450					455					460					
Val	Cys	Lys	His	Thr	Leu	Lys	Cys	Pro	His	Cys	Asp	Met	Val	Leu	Thr	
465				470						475					480	
Phe	His	Lys	Tyr	Ala	Asn	Val	Leu	Leu	Cys	His	Leu	Cys	Asn	Ser	Ser	
			485						490					495		
Pro	Lys	Asp	Leu	Pro	Gln	Ser	Cys	Pro	Lys	Cys	Leu	Gly	Thr	Met	Thr	
		500						505					510			



Leu	Gln	Tyr	Arg	Gly	Ser	Gly	Thr	Glu	Lys	Ile	Glu	Lys	Ile	Leu	Gln
	515						520					525			
Gln	Ile	Phe	Pro	Gln	Ile	Arg	Thr	Ile	Arg	Ile	Asp	Ser	Asp	Thr	Thr
	530						535				540				
Lys	Phe	Lys	Gly	Ser	His	Glu	Thr	Leu	Leu	Arg	Gln	Phe	Ala	Thr	Gly
545					550					555					560
Lys	Ala	Asp	Val	Leu	Ile	Gly	Thr	Gln	Met	Ile	Ala	Lys	Gly	Met	Asn
			565						570					575	
Phe	Ser	Ala	Val	Thr	Leu	Ala	Val	Ile	Leu	Asn	Gly	Asp	Ser	Gly	Leu
			580					585					590		
Tyr	Ile	Pro	Asp	Phe	Arg	Ala	Ser	Glu	Gln	Val	Phe	Gln	Leu	Ile	Thr
		595					600					605			
Gln	Val	Ala	Gly	Arg	Ser	Gly	Arg	Ser	His	Leu	Pro	Gly	Glu	Ile	Leu
610						615					620				
Ile	Gln	Ser	Phe	Leu	Pro	Asp	His	Pro	Thr	Ile	His	Ser	Ala	Met	Arg
625					630						635				640
Gln	Asp	Tyr	Ser	Ala	Phe	Tyr	Ser	Gln	Glu	Ile	Thr	Gly	Arg	Glu	Leu
			645						650					655	
Cys	Glu	Tyr	Pro	Pro	Phe	Ile	Arg	Leu	Ile	Arg	Cys	Ile	Phe	Met	Gly
			660					665					670		
Lys	Cys	Pro	Lys	Gln	Thr	Trp	Glu	Glu	Ala	His	Arg	Val	His	Asn	Ile
	675					680						685			
Leu	Lys	Glu	Gln	Leu	Glu	Ser	Thr	Asn	Pro	Leu	Met	Pro	Val	Thr	Pro
	690					695					700				
Cys	Gly	His	Phe	Lys	Ile	Lys	Asp	Thr	Phe	Arg	Tyr	Gln	Phe	Leu	Ile
705					710					715					720
Lys	Ser	Ala	Tyr	Val	Ile	Pro	Val	Asn	Lys	Lys	Leu	His	His	Ala	Leu
			725						730					735	
Met	Leu	Ala	Lys	Leu	Ser	Pro	Lys	Val	Lys	Phe	Met	Ile	Asp	Val	Asp
			740					745					750		
Pro	Met	Thr	Thr	Phe	Phe										
			755												

<210> 927

<211> 230

<212> PRT

<213> Chlamydia pneumoniae

<400> 927

Lys	His	Trp	Leu	Phe	Met	Glu	Asn	Ser	Gln	Asn	Phe	His	Asp	Thr	Leu
1				5					10					15	
Cys	Gln	Leu	Leu	Asp	Arg	Tyr	Ser	Glu	Glu	Leu	Tyr	Pro	Thr	Leu	Ala
		20						25					30		
Ser	Leu	Leu	Asn	Val	Thr	Leu	Pro	Asn	Thr	Ala	Ile	Ser	Ala	Ser	Val
		35					40					45			
Ser	Ser	Ile	Pro	Glu	Lys	Ala	Val	Glu	Val	Pro	Asn	Ala	Glu	Pro	Gln
	50					55					60				
Pro	Ile	Thr	Pro	Pro	Pro	Pro	Thr	Asn	Leu	Ser	Gln	Glu	Lys	Thr	Lys
65					70					75					80
Pro	Ser	Asp	Trp	Lys	Cys	Val	Pro	Leu	His	Pro	Asp	Leu	Ser	Gln	Asn
				85					90					95	
Ala	Ile	Leu	Lys	Glu	Lys	Tyr	Pro	Ala	Leu	Lys	Asp	Cys	Ser	Leu	Pro
			100					105					110		
Ala	Pro	Lys	Ile	Pro	Cys	Ser	Ile	Phe	Val	Tyr	Glu	Glu	Asn	Asn	Glu
		115					120					125			
Glu	Val	Leu	Phe	Phe	Asn	Arg	Leu	Ala	Lys	Ile	Leu	Thr	Gln	Gln	Leu
	130					135					140				
Phe	Pro	Thr	Lys	Leu	Thr	Leu	Ile	His	Ala	Lys	Thr	Asn	Ile	Phe	Val
145					150					155					160
Asn	Asn	Pro	Asn	Phe	Phe	Leu	Ala	Leu	Ala	Pro	Leu	Asn	Val	Ile	Arg
				165					170					175	

Tyr Lys Ile Pro Thr Thr Asp Tyr His Gln Ser Leu Thr Gln Asn Gly  
                   180                  185                  190  
 Cys Ile Phe Leu Pro Leu Tyr Ser Ser Leu Glu Tyr Glu Lys Asp Ser  
                   195                  200                  205  
 Gln Leu Lys Arg Asn Leu Trp Ala Ile Leu Asn Arg Leu Pro Phe Ala  
                   210                  215                  220  
 Tyr Thr Pro Lys Ser Ser  
 225                  230

<210> 928  
 <211> 183  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 928  
 Cys His His Thr Gln Gln Thr Tyr Ser Thr Arg Phe Phe Lys Asp Ser  
   1                  5                  10                  15  
 Asp Met Lys Phe Trp Leu Gln Gly Cys Ala Phe Val Gly Cys Leu Leu  
                   20                  25                  30  
 Leu Thr Leu Pro Cys Cys Ala Ala Arg Arg Arg Ala Ser Gly Glu Asn  
                   35                  40                  45  
 Leu Gln Gln Thr Arg Pro Ile Ala Ala Ala Asn Leu Gln Trp Glu Ser  
                   50                  55                  60  
 Tyr Ala Glu Ala Leu Glu His Ser Lys Gln Asp His Lys Pro Ile Cys  
 65                  70                  75                  80  
 Leu Phe Phe Thr Gly Ser Asp Trp Cys Met Trp Cys Ile Lys Met Gln  
                   85                  90                  95  
 Asp Gln Ile Leu Gln Ser Ser Glu Phe Lys His Phe Ala Gly Val His  
                   100                  105                  110  
 Leu His Met Val Glu Val Asp Phe Pro Gln Lys Asn His Gln Pro Glu  
                   115                  120                  125  
 Glu Gln Arg Gln Lys Asn Gln Glu Leu Lys Ala Gln Tyr Lys Val Thr  
                   130                  135                  140  
 Gly Phe Pro Glu Leu Val Phe Ile Asp Ala Glu Gly Lys Gln Leu Ala  
 145                  150                  155                  160  
 Arg Met Gly Phe Glu Pro Gly Gly Gly Ala Ala Tyr Val Ser Lys Val  
                   165                  170                  175  
 Lys Ser Ala Leu Lys Leu Arg  
                   180

<210> 929  
 <211> 383  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 929  
 Asp Ser Cys Met Ile Pro Ser Pro Thr Pro Ile Asn Phe Arg Asp Asp  
   1                  5                  10                  15  
 Thr Ile Leu Glu Thr Asp Pro Lys Pro Ser Leu Ile Met Phe Ser Ser  
                   20                  25                  30  
 Lys Lys Thr Glu Ile Ala Ser Glu Arg Arg Lys Ala His Pro Thr Leu  
                   35                  40                  45  
 Phe Lys Val Leu Gly Thr Ile Trp Asn Ile Val Lys Phe Ile Ile Ser  
                   50                  55                  60  
 Ile Ile Leu Phe Leu Pro Leu Ala Leu Leu Trp Val Leu Lys Lys Thr  
 65                  70                  75                  80  
 Cys Gln Phe Phe Ile Leu Pro Ser Ser Ile Ile Ser Gln Ser Met Ser  
                   85                  90                  95  
 Lys Thr Ala Val Ala Ile Arg Arg Met Thr Phe Leu Ser His Ile Lys  
                   100                  105                  110

Gln	Leu	Leu	Ser	Leu	Lys	Glu	Ile	Ser	Ala	Ala	Asp	Arg	Val	Val	Ile
	115						120					125			
Gln	Tyr	Asp	Asp	Leu	Val	Val	Asp	Ser	Leu	Ala	Ile	Lys	Ile	Pro	His
	130						135				140				
Ala	Leu	Pro	His	Arg	Trp	Ile	Leu	Tyr	Ser	Gln	Gly	Asn	Ser	Gly	Leu
145					150					155					160
Met	Glu	Asn	Leu	Phe	Asp	Arg	Gly	Asp	Ser	Ser	Leu	His	Gln	Leu	Ala
				165					170						175
Lys	Ala	Thr	Gly	Ser	Asn	Leu	Leu	Val	Phe	Asn	Tyr	Pro	Gly	Ile	Met
			180					185					190		
Ser	Ser	Lys	Gly	Glu	Ala	Lys	Arg	Glu	Asn	Leu	Val	Lys	Ser	Tyr	Gln
		195					200					205			
Ala	Cys	Val	Arg	Tyr	Leu	Arg	Asp	Glu	Glu	Thr	Gly	Pro	Lys	Ala	Asn
	210					215					220				
Gln	Ile	Ile	Ala	Phe	Gly	Tyr	Ser	Leu	Gly	Thr	Ser	Val	Gln	Ala	Ala
225					230					235					240
Ala	Leu	Asp	Arg	Glu	Val	Thr	Asp	Gly	Ser	Asp	Gly	Thr	Ser	Trp	Ile
				245					250						255
Val	Val	Lys	Asp	Arg	Gly	Pro	Arg	Ser	Leu	Ala	Asp	Val	Ala	Asn	Gln
			260					265					270		
Ile	Cys	Lys	Pro	Ile	Ala	Ser	Ala	Ile	Ile	Lys	Leu	Val	Gly	Trp	Asn
	275						280						285		
Ile	Asp	Ser	Val	Lys	Pro	Ser	Glu	Arg	Leu	Arg	Cys	Pro	Glu	Ile	Phe
	290					295					300				
Ile	Tyr	Asn	Ser	Asn	His	Asp	Gln	Glu	Leu	Ile	Ser	Asp	Gly	Leu	Phe
305					310					315					320
Glu	Arg	Glu	Asn	Cys	Val	Ala	Thr	Pro	Phe	Leu	Glu	Leu	Pro	Glu	Val
				325					330					335	
Lys	Thr	Ser	Gly	Thr	Lys	Ile	Pro	Ile	Pro	Glu	Arg	Asp	Leu	Leu	His
			340					345					350		
Leu	Asn	Pro	Leu	Ser	Pro	Asn	Val	Val	Asp	Arg	Leu	Ala	Ala	Val	Ile
	355						360					365			
Ser	Asn	Tyr	Leu	Asp	Ser	Glu	Asn	Arg	Lys	Ser	Gln	Gln	Pro	Asp	
	370						375				380				

<210> 930

<211> 384

<212> PRT

<213> Chlamydia pneumoniae

<400> 930

Arg	Arg	Lys	Asp	Phe	Ala	Phe	Thr	Leu	Leu	Asn	Leu	Ser	Asn	Arg	Ser
1				5					10					15	
Asp	Ile	Leu	Ser	Gly	Ile	Phe	Ser	Asn	Pro	His	Pro	Val	Ser	Tyr	Phe
		20						25					30		
Ser	Ser	Thr	His	Ala	Lys	Gln	Leu	Ser	Asp	Phe	Ser	Lys	Lys	His	Pro
		35					40					45			
Ile	Leu	Thr	Lys	Ile	Val	Thr	Ile	Ile	Val	Lys	Ile	Phe	Lys	Leu	Leu
	50					55					60				
Ile	Gly	Leu	Ile	Ile	Pro	Pro	Leu	Gly	Ile	Tyr	Trp	Leu	Cys	Gln	Leu
65					70				75					80	
Val	Cys	Ser	Leu	Ala	Leu	Phe	Pro	Arg	Ser	Ser	Met	Leu	Tyr	Ser	Val
				85					90					95	
Leu	Lys	Thr	Cys	Phe	Lys	Lys	Tyr	Arg	Leu	Glu	Gln	Glu	Ile	Gln	Asp
			100					105					110		
Tyr	Phe	Val	Lys	Asn	Leu	Asp	Pro	Ser	Phe	Lys	Asp	Pro	Ala	Val	Ser
	115						120					125			
Glu	Ser	Lys	Arg	Ile	Thr	Ile	Gln	Gln	Asp	His	Leu	Thr	Ile	Asp	Thr
	130					135						140			
Leu	Ala	Ile	His	Phe	Ser	Thr	Ala	Arg	Pro	Lys	Arg	Trp	Leu	Leu	Ile
145					150					155					160

Ser Leu Gly Ser Gly Asp Phe Leu Glu Asp Met Ile Gly Leu Lys Asp  
 165 170 175  
 Ser Leu Phe Leu Ser Trp Lys Glu Leu Ala Lys Leu Leu Gly Ala Asn  
 180 185 190  
 Ile Leu Ile Tyr Asn Tyr Pro Gly Val Lys Ser Ser Thr Gly Lys Leu  
 195 200 205  
 Asn Leu Glu Asn Leu Ala Thr Ala His Asn Leu Cys Ala Lys Tyr Leu  
 210 215 220  
 Gln Asp Lys Ile Gln Gly Pro Gly Ala Asn Glu Ile Ile Thr Tyr Gly  
 225 230 235 240  
 Tyr Ser Leu Gly Gly Val Val Gln Ser Ala Ala Leu Gln Lys Asn Pro  
 245 250 255  
 Phe Thr Asn Ser Glu Thr Ser Trp Val Ala Val Lys Asp Arg Ala Pro  
 260 265 270  
 His Ser Leu Pro Ala Ala Ala Asn Ser Phe Phe Gly Pro Ile Gly Lys  
 275 280 285  
 Leu Ile Ala Val Leu Ala Arg Trp Lys Met Asp Ala Glu Lys Asn Ser  
 290 295 300  
 Arg Glu Leu Pro Cys Pro Glu Ile Leu Val Tyr Ser Ala Asp Arg Phe  
 305 310 315 320  
 Arg Pro Ser Glu Val Gly Asp Asp Thr Ala Leu Leu Pro Glu Phe Thr  
 325 330 335  
 Leu Ala His Ala Ile Lys Arg Thr Pro Phe Ala Arg Ser Lys Lys Phe  
 340 345 350  
 Ile Gly Glu Val Asn Leu Leu His Ser Ser Pro Leu Lys His Pro Thr  
 355 360 365  
 Ile Gln Lys Leu Ala Glu Ala Ile Leu Glu Ser Leu Ser Arg Lys Asn  
 370 375 380

<210> 931

<211> 372

<212> PRT

<213> Chlamydia pneumoniae

<400> 931

Glu Lys Phe Met Ala Pro Ile His Gly Ser Asn Ala Phe Val Glu Asp  
 1 5 10 15  
 Ile Leu His Ser His Pro Ser Pro Gln Ala Thr Tyr Phe Ser Ser Thr  
 20 25 30  
 Arg Ala Gln Lys Leu His Glu Phe Lys Asp Arg His Pro Val Leu Thr  
 35 40 45  
 Arg Ile Ala Ser Val Ile Ile Lys Ile Phe Lys Val Leu Ile Gly Leu  
 50 55 60  
 Ile Ile Leu Pro Leu Gly Ile Tyr Trp Leu Cys Gln Thr Leu Cys Thr  
 65 70 75 80  
 Asn Ser Ile Leu Pro Ser Lys Asn Leu Leu Lys Ile Phe Lys Lys Gln  
 85 90 95  
 Pro Asn Thr Lys Thr Leu Lys Thr Asn Tyr Leu His Ala Leu Gln Asp  
 100 105 110  
 Tyr Ser Ser Lys Asn Arg Val Ala Ser Met Arg Arg Val Pro Ile Leu  
 115 120 125  
 Gln Asp Asn Val Leu Ile Asp Thr Leu Glu Ile Cys Leu Ser Gln Ala  
 130 135 140  
 Pro Thr Asn Arg Trp Met Leu Ile Ser Leu Gly Ser Asp Cys Ser Leu  
 145 150 155 160  
 Glu Glu Ile Ala Cys Lys Glu Ile Phe Asp Ser Trp Gln Arg Phe Ala  
 165 170 175  
 Lys Leu Ile Gly Ala Asn Ile Leu Val Tyr Asn Tyr Pro Gly Val Met  
 180 185 190  
 Ser Ser Thr Gly Ser Ser Ser Leu Lys Asp Leu Ala Ser Ala His Asn  
 195 200 205

Ile Cys Thr Arg Tyr Leu Lys Asp Lys Glu Gln Gly Pro Gly Ala Lys  
 210 215 220  
 Glu Ile Ile Thr Tyr Gly Tyr Ser Leu Gly Gly Leu Ile Gln Ala Glu  
 225 230 235 240  
 Ala Leu Arg Asp Gln Lys Ile Val Ala Asn Asp Asp Thr Thr Trp Ile  
 245 250 255  
 Ala Val Lys Asp Arg Cys Pro Leu Phe Ile Ser Pro Glu Gly Phe His  
 260 265 270  
 Ser Cys Arg Arg Ile Gly Lys Leu Val Ala Arg Leu Phe Gly Trp Gly  
 275 280 285  
 Thr Lys Ala Val Glu Arg Ser Gln Asp Leu Pro Cys Leu Glu Ile Phe  
 290 295 300  
 Leu Tyr Pro Thr Asp Ser Leu Arg Arg Ser Thr Val Arg Gln Asn Lys  
 305 310 315 320  
 Leu Leu Ala Pro Glu Leu Thr Leu Ala His Ala Ile Lys Asn Ser Pro  
 325 330 335  
 Tyr Val Gln Asn Lys Glu Phe Ile Glu Val Arg Leu Ser Ser Asp Ile  
 340 345 350  
 Asp Pro Ile Asp Ser Lys Thr Arg Val Ala Leu Ala Thr Pro Ile Leu  
 355 360 365  
 Lys Lys Leu Ser  
 370

<210> 932  
 <211> 160  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 932  
 Asn Lys Met Ser Glu Leu Ala Pro Cys Ser Thr Gly Leu Gln Met Val  
 1 5 10 15  
 Pro His Thr Gln Val His His Ala Leu Asp Thr Arg Arg Val Ile Leu  
 20 25 30  
 Thr Ile Ala Ala Cys Leu Ser Leu Ile Ala Gly Ile Val Leu Val Gly  
 35 40 45  
 Leu Gly Ala Ala Ala Ile Leu Pro Ser Leu Phe Gly Val Ile Gly Gly  
 50 55 60  
 Met Ile Leu Ile Leu Phe Ser Ser Ile Ala Leu Ile Tyr Leu Tyr Lys  
 65 70 75 80  
 Lys Thr Arg Glu Val Asp Gln Ile Ala Leu Glu Pro Leu Pro Glu Met  
 85 90 95  
 Ile Ser Lys Asp Gln Ser Ile Ile Asp Phe Val Lys Thr Arg Asp Tyr  
 100 105 110  
 Ala Ser Leu Glu Lys Lys Ala Thr Phe Ala Tyr Thr His Thr His Tyr  
 115 120 125  
 Tyr Asp Gly Ser Met Val Phe Tyr Arg Glu Ile Pro Arg Phe Met Leu  
 130 135 140  
 Gly Ser Tyr Leu Ala Leu Arg Lys Asp Met Asp Arg Gln Ala Leu Phe  
 145 150 155 160

<210> 933  
 <211> 547  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 933  
 Ile Asp Phe Arg Val Leu Gly Trp Lys Ser Asp Ile Tyr Thr Asn Ile  
 1 5 10 15  
 Leu Glu Glu Arg Met Thr Ala Arg Ala Glu Tyr Leu Asp His Glu Asp  
 20 25 30

Phe	Leu	Tyr	Arg	Ser	His	Lys	Leu	Gln	Glu	Leu	Ser	Glu	Leu	Gly	Val
	35						40					45			
Val	Leu	Tyr	Pro	Tyr	Glu	Phe	Pro	Gly	Val	Phe	Ser	Cys	Glu	Asp	Ile
	50					55					60				
Lys	Lys	Thr	Phe	Ala	Ser	Gln	Glu	Leu	Gly	Asn	Ser	Glu	Ala	Ala	Met
65					70					75					80
Ser	Arg	Ser	Thr	Pro	Arg	Val	Arg	Phe	Ala	Gly	Arg	Leu	Val	Leu	Phe
				85					90					95	
Arg	Ala	Met	Gly	Lys	Asn	Ala	Phe	Gly	Gln	Ile	Leu	Asp	His	Asn	Gln
		100						105					110		
Thr	Ile	Gln	Val	Met	Phe	Asn	Arg	Glu	Phe	Thr	Ser	Val	His	Gly	Leu
	115					120						125			
Ser	Glu	Asp	Ala	Glu	Ile	Thr	Pro	Ile	Lys	Phe	Ile	Glu	Lys	Lys	Leu
	130					135					140				
Asp	Leu	Gly	Asp	Ile	Leu	Gly	Ile	Asp	Gly	Tyr	Leu	Phe	Phe	Thr	His
145					150					155					160
Ser	Gly	Glu	Leu	Thr	Val	Leu	Val	Glu	Thr	Val	Thr	Leu	Leu	Cys	Lys
				165					170					175	
Ser	Leu	Leu	Ser	Leu	Pro	Asp	Lys	His	Ala	Gly	Leu	Ser	Asp	Lys	Glu
			180					185					190		
Val	Arg	Tyr	Arg	Lys	Arg	Trp	Leu	Asp	Leu	Ile	Ser	Ser	Arg	Glu	Val
	195						200					205			
Ser	Asp	Thr	Phe	Val	Lys	Arg	Ser	Tyr	Ile	Ile	Lys	Leu	Ile	Arg	Asn
	210					215					220				
Tyr	Met	Asp	Ala	His	Gly	Phe	Leu	Glu	Val	Glu	Thr	Pro	Ile	Leu	Gln
225					230					235					240
Asn	Ile	Tyr	Gly	Gly	Ala	Glu	Ala	Lys	Pro	Phe	Thr	Thr	Thr	Met	Glu
			245						250					255	
Ala	Leu	His	Ser	Glu	Met	Phe	Leu	Arg	Ile	Ser	Leu	Glu	Ile	Ala	Leu
			260					265					270		
Lys	Lys	Ile	Leu	Val	Gly	Gly	Ala	Pro	Arg	Ile	Tyr	Glu	Leu	Gly	Lys
	275						280					285			
Val	Phe	Arg	Asn	Glu	Gly	Ile	Asp	Arg	Thr	His	Asn	Pro	Glu	Phe	Thr
	290					295					300				
Met	Ile	Glu	Ala	Tyr	Ala	Ala	Tyr	Met	Asp	Tyr	Lys	Glu	Val	Met	Val
305					310					315					320
Phe	Val	Glu	Asn	Leu	Val	Glu	His	Leu	Val	Arg	Ala	Val	Asn	His	Asp
			325						330					335	
Asn	Thr	Ser	Leu	Val	Tyr	Ser	Tyr	Trp	Lys	His	Gly	Pro	Gln	Glu	Val
			340					345					350		
Asp	Phe	Lys	Ala	Pro	Trp	Ile	Arg	Met	Thr	Met	Lys	Glu	Ser	Ile	Ala
	355					360						365			
Thr	Tyr	Ala	Gly	Ile	Asp	Val	Asp	Val	His	Ser	Asp	Gln	Lys	Leu	Lys
	370					375						380			
Glu	Ile	Leu	Lys	Lys	Lys	Thr	Thr	Phe	Pro	Glu	Thr	Ala	Phe	Ala	Thr
385					390					395					400
Ala	Ser	Arg	Gly	Met	Leu	Ile	Ala	Ala	Leu	Phe	Asp	Glu	Leu	Val	Ser
			405						410					415	
Asp	Asn	Leu	Ile	Ala	Pro	His	His	Ile	Thr	Asp	His	Pro	Val	Glu	Thr
			420					425					430		
Thr	Pro	Leu	Cys	Lys	Thr	Leu	Arg	Ser	Gly	Asp	Thr	Ala	Phe	Val	Glu
	435					440						445			
Arg	Phe	Glu	Ser	Phe	Cys	Leu	Gly	Lys	Glu	Leu	Cys	Asn	Ala	Tyr	Ser
	450					455						460			
Glu	Leu	Asn	Asp	Pro	Ile	Arg	Gln	Arg	Glu	Leu	Leu	Glu	Gln	Gln	His
465					470					475					480
Thr	Lys	Lys	Glu	Leu	Leu	Pro	Asp	Ser	Glu	Cys	His	Pro	Ile	Asp	Glu
			485						490					495	
Glu	Phe	Leu	Glu	Ala	Leu	Cys	Gln	Gly	Met	Pro	Pro	Ala	Gly	Gly	Phe
			500					505					510		

Gly Ile Gly Val Asp Arg Leu Val Met Ile Leu Thr Asn Ala Ala Ser  
 515 520 525  
 Ile Arg Asp Val Leu Tyr Phe Pro Val Met Arg Arg Phe Asp Ala Glu  
 530 535 540  
 Lys Thr Asn  
 545

<210> 934  
 <211> 480  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 934  
 Val Lys Ser Asp Thr Val Met Ala Phe Ser His Ile Glu Gly Leu Tyr  
 1 5 10 15  
 Phe Tyr Asn Thr Ala Ser Gln Lys Lys Glu Leu Phe Phe Pro Asn His  
 20 25 30  
 Thr Pro Val Arg Leu Tyr Thr Cys Gly Pro Thr Val Tyr Asp Tyr Ala  
 35 40 45  
 His Ile Gly Asn Phe Arg Thr Tyr Val Phe Glu Asp Ile Leu Lys Arg  
 50 55 60  
 Thr Leu Val Phe Phe Gly Tyr Ser Val Thr His Val Met Asn Ile Thr  
 65 70 75 80  
 Asp Val Glu Asp Lys Thr Ile Ala Gly Ala Ser Lys Lys Asn Ile Pro  
 85 90 95  
 Leu Gln Glu Tyr Thr Gln Pro Tyr Thr Glu Ala Phe Phe Glu Asp Leu  
 100 105 110  
 Asp Thr Leu Asn Ile Ala Arg Ala Asp Phe Tyr Pro His Ala Thr His  
 115 120 125  
 Tyr Ile Pro Gln Met Ile Gln Ala Ile Thr Lys Leu Leu Glu Gln Gly  
 130 135 140  
 Ile Ala Tyr Ile Gly Gln Asp Ala Ser Val Tyr Phe Ser Leu Asn Arg  
 145 150 155 160  
 Phe Pro Asn Tyr Gly Lys Leu Ser His Leu Asp Leu Ser Ser Leu Arg  
 165 170 175  
 Cys Cys Ser Arg Ile Ser Ala Asp Glu Tyr Asp Lys Glu Asn Pro Ser  
 180 185 190  
 Asp Phe Val Leu Trp Lys Ala Tyr Asn Pro Glu Arg Asp Gly Val Ile  
 195 200 205  
 Tyr Trp Glu Ser Pro Phe Gly Lys Gly Arg Pro Gly Trp His Leu Glu  
 210 215 220  
 Cys Ser Ile Met Ala Met Glu Leu Leu Gly Asp Ser Leu Asp Ile His  
 225 230 235 240  
 Ala Gly Gly Val Asp Asn Ile Phe Pro His His Glu Asn Glu Ile Ala  
 245 250 255  
 Gln Ser Glu Ala Leu Ser Gly Lys Pro Phe Ala Arg Tyr Trp Leu His  
 260 265 270  
 Ser Glu His Leu Leu Ile Asp Gly Lys Lys Met Ser Lys Ser Leu Gly  
 275 280 285  
 Asn Phe Leu Thr Leu Arg Asp Leu Leu His Gln Glu Phe Thr Gly Gln  
 290 295 300  
 Glu Val Arg Tyr Met Leu Leu Gln Ser His Tyr Arg Thr Gln Leu Asn  
 305 310 315 320  
 Phe Thr Glu Glu Ala Leu Leu Ala Cys Arg His Ala Leu Arg Arg Leu  
 325 330 335  
 Lys Asp Phe Val Ser Arg Leu Glu Gly Val Asp Leu Pro Gly Glu Ser  
 340 345 350  
 Pro Leu Pro Arg Thr Leu Asp Ser Ser Ser Gln Phe Ile Glu Ala Phe  
 355 360 365  
 Ser Arg Ala Leu Ala Asn Asp Leu Asn Val Ser Thr Gly Phe Ala Ser  
 370 375 380

Leu Phe Asp Phe Val His Glu Ile Asn Thr Leu Ile Asp Gln Gly His  
 385 390 395 400  
 Phe Ser Lys Ala Asp Ser Leu Tyr Ile Leu Asp Thr Leu Lys Lys Val  
 405 410 415  
 Asp Thr Val Leu Gly Val Leu Pro Leu Thr Thr Ser Val Cys Ile Pro  
 420 425 430  
 Glu Thr Val Met Gln Leu Val Ala Glu Arg Glu Glu Ala Arg Lys Thr  
 435 440 445  
 Lys Asn Trp Ala Met Ala Asp Thr Leu Arg Asp Glu Ile Leu Ala Ala  
 450 455 460  
 Gly Phe Leu Val Glu Asp Ser Lys Ser Gly Pro Lys Val Lys Pro Leu  
 465 470 475 480

<210> 935  
 <211> 349  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 935  
 Pro Val Ile Leu Leu Gln Asn Ile Lys Arg Cys Ser Leu Lys Gln Leu  
 1 5 10 15  
 Lys Val Leu Ala Thr Leu Leu Leu Ser Leu Ser Leu Pro Thr Leu Glu  
 20 25 30  
 Ala Ala Glu Asn Arg Asp Ser Asp Ser Ile Val Trp His Leu Asp Tyr  
 35 40 45  
 Gln Glu Ala Leu Gln Lys Ser Lys Glu Ala Glu Leu Pro Leu Leu Val  
 50 55 60  
 Ile Phe Ser Gly Ser Asp Trp Asn Gly Pro Cys Met Lys Ile Arg Lys  
 65 70 75 80  
 Glu Val Leu Glu Ser Pro Glu Phe Ile Lys Arg Val Gln Gly Lys Phe  
 85 90 95  
 Val Cys Val Glu Val Glu Tyr Leu Lys His Arg Pro Gln Val Glu Asn  
 100 105 110  
 Ile Arg Gln Gln Asn Leu Ala Leu Lys Ser Lys Phe Lys Ile Asn Glu  
 115 120 125  
 Leu Pro Cys Met Ile Leu Leu Ser His Glu Glu Arg Glu Ile Tyr Arg  
 130 135 140  
 Ile Gly Ser Phe Gly Asn Glu Thr Gly Ser Asn Leu Gly Asp Ser Leu  
 145 150 155 160  
 Cys His Ile Val Glu Ser Asp Ser Leu Leu Arg Arg Ala Phe Pro Met  
 165 170 175  
 Met Thr Ser Leu Ser Leu Ser Glu Leu Gln Arg Tyr Tyr Arg Leu Ala  
 180 185 190  
 Glu Glu Leu Ser His Lys Glu Phe Leu Lys His Ala Leu Glu Leu Gly  
 195 200 205  
 Val Arg Ser Asp Asp Tyr Phe Phe Leu Ser Glu Lys Phe Arg Leu Leu  
 210 215 220  
 Val Glu Val Gly Lys Met Asp Ser Glu Glu Cys Gln Arg Ile Lys Lys  
 225 230 235 240  
 Arg Leu Leu Asn Lys Asp Pro Lys Asn Glu Lys Gln Thr His Phe Thr  
 245 250 255  
 Val Ala Leu Ile Glu Phe Gln Glu Leu Ala Lys Arg Ser Arg Ala Gly  
 260 265 270  
 Val Arg Gln Asp Ala Ser Gln Val Ile Ala Pro Leu Glu Ser Tyr Ile  
 275 280 285  
 Ser Gln Phe Gly Gln Gln Asp Lys Asp Asn Leu Trp Arg Val Glu Met  
 290 295 300  
 Met Ile Ala Gln Phe Tyr Leu Asp Ser Asp Gln Trp His His Ala Leu  
 305 310 315 320  
 Gln His Ala Glu Val Ala Phe Glu Ala Ala Pro Asn Glu Val Arg Ser  
 325 330 335



His Ile Ser Arg Ser Leu Glu Tyr Ile Arg His Gln Ser  
 340 345

<210> 936  
 <211> 141  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 936  
 Tyr Phe Val His Pro Leu Thr Leu Pro Lys Gln Ser Arg Val Leu Lys  
 1 5 10 15  
 Arg Lys Gln Phe Leu Tyr Ile Thr Arg Ser Gly Phe Cys Cys Arg Gly  
 20 25 30  
 Ser Gln Ala Thr Phe Tyr Val Val Pro Ser Arg His Pro Gly Thr Cys  
 35 40 45  
 Arg Met Gly Ile Thr Val Ser Lys Lys Phe Gly Lys Ala His Glu Arg  
 50 55 60  
 Asn Ser Phe Lys Arg Val Val Arg Glu Val Phe Arg His Val Arg His  
 65 70 75 80  
 Gln Leu Pro Asn Cys Gln Ile Val Val Phe Pro Lys Gly His Lys Gln  
 85 90 95  
 Arg Pro Val Phe Ser Lys Leu Leu Gln Asp Phe Ile Asn Gln Ile Pro  
 100 105 110  
 Glu Gly Leu His Arg Leu Gly Lys Thr Lys Ala Thr Thr Gly Gly Glu  
 115 120 125  
 Cys Thr Pro Lys Ser Glu Lys Cys Val Thr Ala Pro Arg  
 130 135 140

<210> 937  
 <211> 48  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 937  
 Glu Asp Thr Val Lys Arg Thr Tyr Gln Pro Ser Lys Arg Lys Arg Arg  
 1 5 10 15  
 Asn Ser Val Gly Phe Arg Thr Arg Met Ala Thr Arg Asn Gly Arg Lys  
 20 25 30  
 Leu Leu Asn Arg Arg Arg Arg His Gly Arg His Ser Leu Val Asp Leu  
 35 40 45

<210> 938  
 <211> 47  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 938  
 Tyr Leu Met Lys Val Ser Ser Ser Val Lys Ala Asp Pro Ser Lys Gly  
 1 5 10 15  
 Asp Lys Leu Val Arg Arg Lys Gly Arg Leu Tyr Val Ile Asn Lys Lys  
 20 25 30  
 Asp Pro Asn Arg Lys Gln Arg Gln Ala Gly Pro Ala Arg Lys Lys  
 35 40 45

<210> 939  
 <211> 104  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 939  
Val Lys Arg Met Ala Lys Lys Ser Ser Val Ala Arg Glu Ala Lys Arg  
1 5 10 15  
Arg Arg Leu Val Glu Ala Asn Phe Lys Lys Arg Ser Asp Leu Arg Lys  
20 25 30  
Ile Val Lys Ser Leu Ser Val Ser Glu Glu Glu Lys Glu Asn Ala Arg  
35 40 45  
Ile Ser Leu Asn Lys Met Lys Arg Asp Thr Ser Pro Thr Arg Leu His  
50 55 60  
Asn Arg Cys Leu Leu Thr Gly Arg Pro Arg Gly Tyr Leu Arg Lys Phe  
65 70 75 80  
Ala Ile Ser Arg Ile Cys Phe Arg Gln Met Ala Ser Met Gly Glu Ile  
85 90 95  
Pro Gly Val Ile Lys Ala Ser Trp  
100

<210> 940  
<211> 169  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 940  
Gln Thr Ile Asn Leu Ser Gly Thr Leu Arg Thr Met Leu Pro Ile Ser  
1 5 10 15  
Ile Leu Leu Phe Tyr Val Ile Leu Gly Cys Leu Ser Ala Tyr Ile Ala  
20 25 30  
Asp Lys Lys Lys Arg Asn Val Ile Gly Trp Phe Phe Ala Gly Ala Phe  
35 40 45  
Phe Gly Phe Ile Gly Leu Val Val Leu Leu Leu Leu Pro Ser Arg Arg  
50 55 60  
Asn Ala Leu Glu Lys Pro Gln Asn Asp Pro Phe Asp Asn Ser Asp Leu  
65 70 75 80  
Phe Asp Asp Leu Lys Lys Ser Leu Ala Gly Asn Asp Glu Ile Pro Ser  
85 90 95  
Ser Gly Asp Leu Gln Glu Ile Val Ile Asp Thr Glu Lys Trp Phe Tyr  
100 105 110  
Leu Asn Lys Asp Arg Glu Asn Val Gly Pro Ile Ser Phe Glu Glu Leu  
115 120 125  
Val Val Leu Leu Lys Gly Lys Thr Tyr Pro Glu Glu Ile Trp Val Trp  
130 135 140  
Lys Lys Gly Met Lys Asp Trp Gln Arg Val Lys Asp Val Pro Ser Leu  
145 150 155 160  
Gln Gln Ala Leu Lys Glu Ala Ser Lys  
165

<210> 941  
<211> 189  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 941  
His Ile Asn Arg Trp Thr Ile Arg Leu Ser Leu Thr Leu Ile Ile Ser  
1 5 10 15  
Thr Val Leu Tyr Phe Phe Ser Glu Glu Ile Glu Leu Ile Gly Gly Gly  
20 25 30  
Lys Met Glu Lys Gln Asn Leu Lys Leu Asp Val Lys Glu Ile Glu Phe  
35 40 45  
Pro Glu Thr Val Phe Ser Arg Asp Ile Glu Thr Arg Val Ile Gln Val  
50 55 60  
Ile Ile Leu His Cys Leu Ala Lys Ile Asn Gly Val Ser Leu Leu Gly  
65 70 75 80

Gly	Asn	Leu	Ile	Asp	Ala	Leu	Phe	Gly	Arg	Asp	Ile	Glu	Arg	Met	Lys
				85					90					95	
Gly	Ile	Tyr	Val	Glu	Gln	Asp	Ser	Lys	Asn	His	Leu	Val	Lys	Val	Arg
			100					105					110		
Val	Glu	Val	Asn	Val	Asp	Tyr	Gly	Val	Ser	Ile	Pro	Glu	Lys	Thr	Glu
		115					120					125			
Glu	Ile	Gln	Gly	Cys	Ile	Val	Ser	Glu	Ile	Ser	Glu	Tyr	Thr	Gly	Leu
	130					135					140				
His	Val	Ala	Ala	Val	His	Val	Ile	Ile	Lys	Gly	Leu	Thr	Gln	Pro	Lys
145					150					155					160
Asp	Arg	Ile	Asp	Glu	Glu	Ile	Glu	Glu	Glu	Val	Ser	Val	Gln	Asp	Leu
			165					170						175	
Pro	Ser	Pro	Glu	Asp	Phe	Leu	Leu	Glu	Asn	Ser	Glu	Gly			
			180					185							

<210> 942

<211> 612

<212> PRT

<213> Chlamydia pneumoniae

<400> 942

Asp	Ala	Thr	Thr	Asp	Ile	Ile	Leu	Val	Met	Arg	Ile	Glu	Asp	Phe	Ser
1				5					10					15	
Leu	Lys	Leu	Ile	Pro	Ser	Ser	Pro	Gly	Val	Tyr	Leu	Met	Lys	Asp	Val
			20					25					30		
His	Asp	Gln	Val	Leu	Tyr	Ile	Gly	Lys	Ala	Lys	Asn	Leu	Lys	Asn	Arg
		35					40					45			
Leu	Ala	Ser	Tyr	Phe	His	Glu	Lys	Gly	Asp	Ser	Arg	Glu	Arg	Ile	Pro
	50					55					60				
Phe	Leu	Met	Lys	Lys	Thr	Ala	Ser	Ile	Glu	Thr	Ile	Val	Val	Ser	Asn
65					70					75					80
Glu	Thr	Glu	Ala	Leu	Leu	Leu	Glu	Asn	Asn	Leu	Ile	Lys	Gln	His	His
			85					90					95		
Pro	Lys	Tyr	Asn	Val	Leu	Leu	Lys	Asp	Asp	Lys	Thr	Phe	Phe	Cys	Leu
			100					105					110		
Ala	Ile	Ser	Leu	Ser	His	Ser	Trp	Pro	Lys	Val	Glu	Ala	Ile	Arg	Thr
		115					120					125			
Lys	Ala	Ile	Thr	Ser	Ser	Gln	Arg	Gln	Leu	Ile	Phe	Gly	Pro	Tyr	Val
	130					135					140				
Ser	Ala	Glu	Ala	Cys	His	Thr	Leu	Leu	Glu	Val	Ile	Ser	Gln	Trp	Phe
145					150					155					160
Pro	Leu	Arg	Thr	Cys	Ser	Asp	Arg	Glu	Phe	Ala	Leu	Arg	Lys	Arg	Pro
			165					170						175	
Cys	Ile	Leu	Tyr	Asp	Met	Lys	Arg	Cys	Leu	Ala	Pro	Cys	Val	Gly	Tyr
		180						185					190		
Cys	Thr	Pro	Glu	Glu	Tyr	Gln	Gly	Thr	Leu	Asp	Lys	Ala	Ile	Leu	Phe
		195					200					205			
Leu	Lys	Gly	Lys	Ile	Glu	Glu	Val	Val	Lys	Asp	Leu	Glu	Lys	Val	Ile
	210					215					220				
Gln	Lys	Ala	Ser	Asp	Asn	Leu	Glu	Phe	Glu	Gln	Ala	Ala	Asn	Tyr	Tyr
225				230						235					240
Arg	Thr	Leu	Ser	Leu	Ile	Lys	Gln	Ala	Met	Ala	Lys	Gln	Gln	Val	Glu
			245					250						255	
Lys	Phe	His	Phe	Gln	Asn	Ile	Asp	Ala	Leu	Gly	Leu	Tyr	Arg	His	Lys
		260						265					270		
Gln	Arg	Thr	Ile	Leu	Thr	Leu	Leu	Thr	Val	Arg	Ser	Gly	Lys	Leu	Leu
	275					280						285			
Gly	Ala	Arg	His	Phe	Ser	Phe	Phe	Glu	Asn	Ala	Gln	Glu	Asp	Gln	Asp
	290					295					300				
Leu	Leu	Ser	Ser	Phe	Ile	Leu	Gln	Tyr	Tyr	Val	Ser	Gln	Pro	Tyr	Ile
305					310					315					320

Pro Lys Glu Ile Leu Thr Pro Leu Pro Leu Glu Phe Pro Thr Leu Ser  
 325 330 335  
 Tyr Val Leu Asn Ala Glu Ser Pro Pro Arg Leu Arg Ser Pro Lys Thr  
 340 345 350  
 Gly Tyr Gly Lys Glu Leu Leu Asp Leu Ala Tyr Arg Asn Ala Lys Ala  
 355 360 365  
 Tyr Ala Ala Thr Thr Leu Pro Ser Ser Thr Leu Pro Tyr Gln Asp Phe  
 370 375 380  
 Gln Asn Ile Leu Arg Met Ser Gln Tyr Pro Tyr Arg Ile Glu Cys Tyr  
 385 390 395 400  
 Asp Asn Ala His Met Gln Gly Ala His Ala Thr Gly Val Tyr Ile Val  
 405 410 415  
 Phe Glu Asn Asn Gly Phe Asp Pro Lys Gln Tyr Arg Thr Phe Ser Ile  
 420 425 430  
 Asp Ser Glu Lys Thr Gln Asn Asp Leu Ala Leu Leu Glu Glu Val Leu  
 435 440 445  
 Leu Arg Arg Phe His Ser Leu Thr Thr Ala Leu Pro Asp Met Ile Val  
 450 455 460  
 Val Asp Gly Gly Lys Thr His Tyr Asn Lys Thr Lys Lys Ile Ile Gln  
 465 470 475 480  
 Thr Leu Asn Leu Thr Gly Ile Gln Val Val Thr Ile Ala Lys Glu Lys  
 485 490 495  
 Ser Asn His Ser Arg Gly Leu Asn Lys Glu Lys Ile Phe Cys Glu Thr  
 500 505 510  
 Phe Pro Glu Gly Phe Ser Leu Pro Pro Thr Ser Asn Leu Leu Gln Phe  
 515 520 525  
 Phe Gln Ile Leu Arg Asp Glu Ala His Arg Phe Ala Ile Ser Lys His  
 530 535 540  
 Arg Lys Lys Arg Gly Lys Ala Leu Phe Glu Gln Glu Lys Ile Pro Gly  
 545 550 555 560  
 Ile Gly Glu Val Lys Arg Lys Arg Leu Leu Gln Lys Phe Lys Ser Trp  
 565 570 575  
 Lys Gln Val Met Leu Ser Ser Gln Glu Glu Leu Glu Ala Ile Pro Gly  
 580 585 590  
 Leu Thr Lys Lys Asp Ile Ala Val Leu Leu Ala Arg Gln Lys Asp Phe  
 595 600 605  
 Asn Lys Ser Asp  
 610

<210> 943  
 <211> 829  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 943  
 Val Met Thr Glu Lys Lys Pro Thr Pro Met Met Glu Gln Trp His Gln  
 1 5 10 15  
 Cys Lys Glu Lys Ala Gly Asp Ser Val Leu Leu Phe Arg Met Gly Asp  
 20 25 30  
 Phe Tyr Glu Ala Phe Tyr Asp Asp Ala Val Leu Leu Ser Gln His Leu  
 35 40 45  
 Glu Leu Thr Leu Thr Gln Arg Gln Gly Ile Pro Met Ser Gly Ile Pro  
 50 55 60  
 Val Ser Thr Val Asp Thr Tyr Val Asp Arg Leu Ile Gly Lys Gly Phe  
 65 70 75 80  
 Lys Val Ala Val Ala Glu Gln Phe Gly Glu Pro Ala Lys Glu Lys Glu  
 85 90 95  
 Ser Lys Lys Ile Gly Pro Met Ala Arg Asp Ile Gln Arg Phe Val Thr  
 100 105 110  
 Pro Gly Thr Leu Leu Ser Ser Thr Leu Leu Gln Glu Lys Phe Asn Asn  
 115 120 125



Asn	Asp	Thr	Glu	Met	Arg	Gly	Ser	Gln	Thr	Arg	Met	Ile	Leu	Leu	Thr
610						615					620				
Gly	Pro	Asn	Met	Ala	Gly	Lys	Ser	Thr	Tyr	Ile	Arg	Gln	Ile	Ala	Leu
625					630					635					640
Leu	Val	Ile	Met	Ala	Gln	Met	Gly	Ser	Tyr	Ile	Pro	Ala	Lys	Ser	Ala
				645					650					655	
His	Ile	Gly	Val	Ile	Asp	Lys	Ile	Phe	Thr	Arg	Ile	Gly	Ala	Gly	Asp
			660					665					670		
Asn	Leu	Ser	Lys	Gly	Met	Ser	Thr	Phe	Met	Val	Glu	Met	Ala	Glu	Thr
			675				680					685			
Ala	Asn	Ile	Leu	His	Asn	Ala	Thr	Asp	Arg	Ser	Leu	Val	Ile	Leu	Asp
	690					695					700				
Glu	Val	Gly	Arg	Gly	Thr	Ser	Thr	Tyr	Asp	Gly	Leu	Ala	Ile	Ala	Gln
705					710					715					720
Ala	Val	Val	Glu	Tyr	Leu	Leu	Phe	Thr	Asp	Lys	Lys	Lys	Ala	Lys	Thr
				725					730					735	
Leu	Phe	Ala	Thr	His	Tyr	Lys	Glu	Leu	Thr	Thr	Leu	Glu	Asp	His	Cys
			740					745					750		
Pro	His	Val	Glu	Asn	Phe	His	Ala	Gly	Val	Lys	Asp	Lys	Ala	Gly	Gln
		755					760					765			
Pro	Val	Phe	Leu	Tyr	Glu	Ile	Leu	Lys	Gly	His	Ser	Gln	Lys	Ser	Phe
	770					775					780				
Gly	Ile	His	Val	Ala	Arg	Leu	Ala	Gly	Phe	Pro	Leu	Cys	Val	Val	Ser
785					790					795					800
Arg	Ala	Gln	Gln	Ile	Leu	Arg	Gln	Leu	Glu	Gly	Pro	Glu	Ser	Ile	Thr
				805					810					815	
Arg	Pro	Ala	Gln	Asp	Lys	Met	Gln	Gln	Leu	Thr	Leu	Phe			
			820					825							

<210> 944

<211> 600

<212> PRT

<213> Chlamydia pneumoniae

<400> 944

Asn	Cys	Ser	Ile	Thr	Lys	Leu	Arg	Thr	Ala	Met	Tyr	Thr	Glu	Glu	Ser
1				5					10					15	
Leu	Asp	Asn	Leu	Arg	His	Ser	Ile	Asp	Ile	Val	Asp	Val	Leu	Ser	Glu
			20					25					30		
His	Ile	His	Leu	Lys	Arg	Ser	Gly	Ala	Thr	Tyr	Lys	Ala	Cys	Cys	Pro
		35					40					45			
Phe	His	Thr	Glu	Lys	Thr	Pro	Ser	Phe	Ile	Val	Asn	Pro	Ala	Gly	Ala
	50					55					60				
His	Tyr	His	Cys	Phe	Gly	Cys	Gly	Ala	His	Gly	Asp	Ala	Ile	Gly	Phe
65					70					75					80
Leu	Met	Gln	His	Leu	Gly	Tyr	Ser	Phe	Thr	Glu	Ala	Ile	Leu	Val	Leu
				85					90					95	
Ser	Lys	Lys	Phe	Gln	Val	Asp	Leu	Val	Leu	Gln	Pro	Lys	Asp	Ser	Gly
			100					105					110		
Tyr	Thr	Pro	Pro	Gln	Gly	Leu	Lys	Glu	Glu	Leu	Arg	His	Ile	Asn	Ser
		115					120					125			
Glu	Ala	Glu	Thr	Phe	Phe	Arg	Tyr	Cys	Leu	Tyr	His	Leu	Pro	Glu	Ala
	130					135					140				
Arg	His	Ala	Leu	Gln	Tyr	Leu	Tyr	His	Arg	Gly	Phe	Ser	Pro	Asp	Thr
145					150					155					160
Ile	Asp	Arg	Phe	His	Leu	Gly	Tyr	Gly	Pro	Glu	Gln	Ser	Leu	Phe	Leu
				165					170					175	
Gln	Ala	Met	Glu	Glu	Arg	Lys	Ile	Ser	Gln	Glu	Gln	Leu	His	Thr	Ala
			180					185					190		
Gly	Phe	Phe	Gly	Asn	Lys	Trp	Phe	Leu	Phe	Ala	Arg	Arg	Ile	Ile	Phe
		195					200					205			

Pro Val His Asp Ala Leu Gly His Thr Ile Gly Phe Ser Ala Arg Lys  
 210 215 220  
 Phe Leu Glu Asn Ser Gln Gly Gly Lys Tyr Val Asn Thr Pro Glu Thr  
 225 230 235 240  
 Pro Ile Phe Lys Lys Ser Arg Ile Leu Phe Gly Leu Asn Phe Ser Arg  
 245 250 255  
 Arg Arg Ile Ala Lys Glu Lys Lys Val Ile Leu Val Glu Gly Gln Ala  
 260 265 270  
 Asp Cys Leu Gln Met Ile Asp Ser Gly Phe Asn Cys Thr Val Ala Ala  
 275 280 285  
 Gln Gly Thr Ala Phe Thr Glu Glu His Val Lys Glu Leu Ser Lys Leu  
 290 295 300  
 Gly Val Leu Lys Val Phe Leu Leu Phe Asp Ser Asp Glu Ala Gly Asn  
 305 310 315 320  
 Lys Ala Ala Leu Arg Val Gly Asp Leu Cys Gln Thr Ala Gln Met Ser  
 325 330 335  
 Val Phe Val Cys Lys Leu Pro Gln Gly His Asp Pro Asp Ser Phe Leu  
 340 345 350  
 Met Gln Arg Gly Ser Ser Gly Leu Ile Ala Leu Leu Glu Gln Ser Gln  
 355 360 365  
 Asp Tyr Leu Thr Phe Leu Ile Ser Glu Lys Met Ser Ser Tyr Pro Lys  
 370 375 380  
 Phe Gly Pro Arg Glu Lys Ala Leu Leu Val Glu Glu Ala Ile Arg Gln  
 385 390 395 400  
 Ile Lys His Trp Gly Ser Pro Ile Leu Val Tyr Glu His Leu Lys Gln  
 405 410 415  
 Leu Ala Ser Leu Met Met Val Pro Glu Asp Met Val Leu Ser Leu Ala  
 420 425 430  
 Asn Pro Gln Val Thr Ala Glu Pro Gln Asn Ile Pro Ile Lys Gln Lys  
 435 440 445  
 Val Pro Lys Ile His Pro His Ile Val Met Glu Thr Asp Ile Leu Arg  
 450 455 460  
 Cys Met Leu Phe Cys Gly Ser Asn Thr Lys Ile Leu Tyr Thr Ala Gln  
 465 470 475 480  
 Phe Tyr Phe Val Pro Glu Asp Phe Lys His Pro Glu Cys Arg Lys Leu  
 485 490 495  
 Phe Ala Phe Met Ile Ser Tyr Tyr Glu Lys Tyr Arg Lys Asn Val Pro  
 500 505 510  
 Phe Asp Glu Ala Cys Gln Val Leu Ser Asp Ser Gln Ile Leu Gln Leu  
 515 520 525  
 Leu Thr Lys Arg Arg Leu Asn Thr Glu Ala Leu Asp Thr Ile Phe Val  
 530 535 540  
 Gln Ser Leu Gln Lys Met Ala Asp Arg Arg Trp Arg Glu Gln Cys Lys  
 545 550 555 560  
 Pro Leu Ser Leu Asn Gln Asn Ile Gln Asp Lys Lys Leu Glu Ile Leu  
 565 570 575  
 Glu Asp Tyr Val Gln Leu Arg Lys Asp Arg Thr Ile Ile Thr Leu Leu  
 580 585 590  
 Asp Pro Glu Ser Glu Leu Ile Pro  
 595 600

<210> 945

<211> 89

<212> PRT

<213> Chlamydia pneumoniae

<400> 945

Phe Phe Met Lys Ser Phe Lys Phe Leu Leu Pro Phe Leu Ser Val Ile  
 1 5 10 15  
 Leu Cys Cys Gly Asn Leu Leu Ser Ser Pro Arg Ser Arg Ala Ile Ser  
 20 25 30

Val Thr Glu Ser Ile Gly Met Ser Ala Val Lys Thr Leu Val Leu Ser  
35 40 45  
Glu Lys Ala His Glu Phe Leu Glu Gly Ile Gly Tyr Gly Val Gly Ala  
50 55 60  
Ser Ser Ile Leu Arg Asp Trp Gln Thr Gln Gln Trp Leu Glu Ile Glu  
65 70 75 80  
Ser Leu Leu Ala Gln Asn Glu Val Met  
85

<210> 946  
<211> 165  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 946  
Ile Lys Ile Met Met His Arg Tyr Phe Ile Pro Leu Leu Ala Leu Leu  
1 5 10 15  
Ile Phe Ser Pro Ser Leu Val Arg Ala Glu Leu Gln Pro Ser Glu Asn  
20 25 30  
Arg Lys Gly Gly Trp Pro Thr Gln Leu Ser Cys Ala Glu Gly Ser Gln  
35 40 45  
Leu Phe Cys Lys Phe Glu Ala Ala Tyr Asn Asn Ala Ile Glu Glu Gly  
50 55 60  
Lys Pro Gly Ile Leu Val Phe Phe Ser Glu Arg Pro Thr Pro Glu Phe  
65 70 75 80  
Ala Asp Leu Thr Asn Gly Ser Phe Ser Leu Ser Thr Pro Ile Ala Lys  
85 90 95  
Gly Phe Asn Val Val Val Leu Cys Pro Gly Leu Ile Ser Pro Leu Asp  
100 105 110  
Phe Phe His Lys Met Asp Pro Val Ile Leu Tyr Met Gly Ser Phe Leu  
115 120 125  
Glu Met Phe Pro Glu Val Glu Ala Val Ser Gly Pro Arg Leu Cys Tyr  
130 135 140  
Ile Leu Ile Asp Glu Gln Gly Gly Ala Gln Cys Gln Ala Val Leu Pro  
145 150 155 160  
Leu Glu Thr Lys Asn  
165

<210> 947  
<211> 220  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 947  
Ser Ile Phe Lys Asn Lys Ile Leu Pro Ser Tyr Phe Gly His Asn Phe  
1 5 10 15  
Asp Gln Leu Arg Arg His Tyr Met Arg Ile Ala Leu Ser Leu Leu Ser  
20 25 30  
Leu Leu Met Ile Phe Pro Ile Phe Gly Glu Glu Ser Arg Pro Gly Ser  
35 40 45  
Glu Asp Gly Asn Ser Asn Thr Gln Glu Ile Val Gly Ser Gln Asp Thr  
50 55 60  
Gln Val Cys Leu Tyr His Ser Tyr Glu Gln Gly Leu Gln Ala Ser Arg  
65 70 75 80  
Ile Glu Gly Lys Pro Leu Val Ile Val Val Leu Cys Asn Ser Gly Asp  
85 90 95  
Asp Gly Gln Ala Cys Thr Ile Gly Leu Ser Glu Thr Cys Glu Glu Val  
100 105 110  
Leu Ser Val Leu Ser Gly Ser Ile Phe Ser Glu Leu Ala Asn Phe Val  
115 120 125





1150

Val	Leu	Thr	Leu	Val	Ser	Ala	Ser	Arg	Leu	Pro	Ile	Asp	Leu	Ala	Ser
			820					825					830		
Leu	Leu	Asp	Arg	Leu	Ala	Asp	His	Phe	Pro	Ser	Thr	Ile	Glu	Glu	Lys
		835					840					845			
Val	Trp	Asp	Lys	Ser	Lys	Thr	Ile	His	Glu	Ile	Leu	Glu	Phe	Ile	Trp
	850					855					860				
Gly	Arg	Leu	Lys	Thr	Phe	Met	Gly	Ser	Leu	Glu	Phe	Arg	Lys	Asp	Glu
865					870					875					880
Ile	Ala	Ala	Val	Leu	Ile	Asp	Ser	Ala	Thr	Lys	Asn	Pro	Ile	Glu	Ile
			885						890					895	
Leu	Asp	Thr	Ala	Glu	Ala	Leu	Gln	Leu	Leu	Lys	Glu	Glu	His	Thr	Glu
		900						905					910		
Lys	Leu	Ala	Val	Ile	Thr	Thr	Thr	His	Asn	Arg	Leu	Lys	Lys	Ile	Leu
	915					920					925				
Ser	Ser	Leu	Lys	Leu	Ser	Met	Thr	Ser	Ser	Pro	Ile	Glu	Val	Leu	Gly
	930					935					940				
Asp	Arg	Glu	Ser	Asn	Phe	Lys	Gln	Val	Leu	Asp	Ala	Phe	Pro	Gly	Phe
945					950					955					960
Pro	Lys	Glu	Thr	Ser	Ala	His	Ala	Phe	Leu	Glu	Tyr	Phe	Leu	Ser	Leu
			965					970					975		
Ala	Asp	Leu	Ser	Asn	Asp	Ile	Gln	Asp	Phe	Leu	Asn	Thr	Val	His	Ile
		980						985					990		
Ala	Asn	Asp	Asp	Gly	Ala	Ile	Arg	Asn	Leu	Arg	Ile	Ser	Leu	Leu	Leu
	995						1000				1005				
Thr	Ala	Met	Asp	Lys	Phe	Ser	Leu	Cys	His	Trp	Glu	Ser	Val	Ala	Val
	1010					1015					1020				

<210> 949

<211> 209

<212> PRT

<213> Chlamydia pneumoniae

<400> 949

Gly	Ser	Arg	Val	Gly	Leu	Pro	Asn	Tyr	Ile	Thr	Phe	Ser	Arg	Leu	Phe
1				5					10					15	
Ile	Thr	Pro	Ile	Phe	Met	Ile	Leu	Tyr	Leu	Lys	Gly	Lys	Trp	Phe	Gly
		20						25					30		
Ile	Thr	Pro	Val	Val	Leu	Pro	Tyr	Val	Leu	Leu	Ala	Leu	Leu	Ala	Ile
		35					40				45				
Ser	Glu	Leu	Thr	Asp	Ala	Ile	Asp	Gly	Tyr	Val	Ala	Arg	Lys	Phe	Ser
	50					55					60				
Gln	Val	Thr	Asp	Leu	Gly	Lys	Leu	Leu	Asp	Pro	Met	Ala	Asp	Ser	Ile
65					70					75					80
Tyr	Arg	Ile	Ser	Ile	Tyr	Leu	Thr	Phe	Thr	Gln	Pro	Pro	Val	Asn	Leu
			85						90					95	
Pro	Leu	Leu	Leu	Val	Phe	Ile	Phe	Leu	Ala	Arg	Asp	Ser	Val	Ile	Ser
			100					105					110		
Thr	Leu	Arg	Thr	Val	Cys	Ala	Phe	Arg	Gly	Arg	Val	Val	Ala	Ala	Arg
		115					120					125			
Ala	Ser	Gly	Lys	Leu	Lys	Ala	Ile	Leu	Gln	Gly	Val	Ser	Phe	Phe	Leu
	130					135					140				
Ile	Leu	Leu	Val	Met	Ile	Pro	His	Ser	Leu	Gly	Leu	Leu	Ser	Gln	Asn
145					150					155					160
Gly	Leu	Glu	Ile	Phe	Ala	Ser	Val	Thr	Val	Ser	Ile	Ile	Ala	Val	Tyr
			165						170					175	
Ser	Ile	Ala	Ser	Gly	Ile	Glu	Tyr	Phe	Trp	Met	Asn	Lys	Asn	Phe	Leu
		180						185					190		
Ser	Gln	Arg	Ala	Lys	Thr	Lys	Asp	Ser	Glu	Lys	Asn	His	Glu	Ser	Lys
		195					200					205			

Asp

<210> 950  
 <211> 479  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 950  
 Gly Glu Ser Met Arg Ile Val Gln Val Ala Val Glu Phe Thr Pro Ile  
 1 5 10 15  
 Val Lys Val Gly Gly Leu Gly Asp Ala Val Ala Ser Leu Ser Lys Glu  
 20 25 30  
 Leu Ala Lys Gln Asn Asp Val Glu Val Leu Leu Pro His Tyr Pro Leu  
 35 40 45  
 Ile Ser Lys Phe Ser Ser Ser Gln Val Leu Ser Glu Arg Ser Phe Tyr  
 50 55 60  
 Tyr Glu Phe Leu Gly Lys Gln Gln Ala Ser Ala Ile Ser Tyr Ser Tyr  
 65 70 75 80  
 Glu Gly Leu Thr Leu Thr Ile Ile Thr Leu Asp Ser Gln Ile Glu Leu  
 85 90 95  
 Phe Ser Thr Thr Ser Val Tyr Ser Glu Asn Asn Val Val Arg Phe Ser  
 100 105 110  
 Ala Phe Ala Ala Ala Ala Ala Tyr Leu Gln Glu Ala Asp Pro Ala  
 115 120 125  
 Asp Ile Val His Leu His Asp Trp His Val Gly Leu Leu Ala Gly Leu  
 130 135 140  
 Leu Lys Asn Pro Leu Asn Pro Val His Ser Lys Ile Val Phe Thr Ile  
 145 150 155 160  
 His Asn Phe Gly Tyr Arg Gly Tyr Cys Ser Thr Gln Leu Leu Ala Ala  
 165 170 175  
 Ser Gln Ile Asp Asp Phe His Leu Ser His Tyr Gln Leu Phe Arg Asp  
 180 185 190  
 Pro Gln Thr Ser Val Leu Met Lys Gly Ala Leu Tyr Cys Ser Asp Tyr  
 195 200 205  
 Ile Thr Thr Val Ser Leu Thr Tyr Val Gln Glu Ile Ile Asn Asp Tyr  
 210 215 220  
 Ser Asp Tyr Glu Leu His Asp Ala Ile Leu Ala Arg Asn Ser Val Phe  
 225 230 235 240  
 Ser Gly Ile Ile Asn Gly Ile Asp Glu Asp Val Trp Asn Pro Lys Thr  
 245 250 255  
 Asp Pro Ala Leu Ala Val Gln Tyr Asp Ala Ser Leu Leu Ser Glu Pro  
 260 265 270  
 Asp Val Leu Phe Thr Lys Lys Glu Glu Asn Arg Ala Val Leu Tyr Glu  
 275 280 285  
 Lys Leu Gly Ile Ser Ser Asp Tyr Phe Pro Leu Ile Cys Val Ile Ser  
 290 295 300  
 Arg Ile Val Glu Glu Lys Gly Pro Glu Phe Met Lys Glu Ile Ile Leu  
 305 310 315 320  
 His Ala Met Glu His Ser Tyr Ala Phe Ile Leu Ile Gly Thr Ser Gln  
 325 330 335  
 Asn Glu Val Leu Leu Asn Glu Phe Arg Asn Leu Gln Asp Cys Leu Ala  
 340 345 350  
 Ser Ser Pro Asn Ile Arg Leu Ile Leu Asp Phe Asn Asp Pro Leu Ala  
 355 360 365  
 Arg Leu Thr Tyr Ala Ala Ala Asp Met Ile Cys Ile Pro Ser His Arg  
 370 375 380  
 Glu Ala Cys Gly Leu Thr Gln Leu Ile Ala Met Arg Tyr Gly Thr Val  
 385 390 395 400  
 Pro Leu Val Arg Lys Thr Gly Gly Leu Ala Asp Thr Val Ile Pro Gly  
 405 410 415  
 Val Asn Gly Phe Thr Phe Phe Asp Thr Asn Asn Phe Asn Glu Phe Arg  
 420 425 430

Ala Met Leu Ser Asn Ala Val Thr Thr Tyr Arg Gln Glu Pro Asp Val  
435 440 445  
Trp Leu Asn Leu Ile Glu Ser Gly Met Leu Arg Ala Ser Gly Leu Asp  
450 455 460  
Ala Met Ala Lys His Tyr Val Asn Leu Tyr Gln Ser Leu Leu Ser  
465 470 475

<210> 951  
<211> 199  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 951  
Arg Thr Ala Leu Leu Ala Gln Asp Tyr Gly Glu Asn Asn Ile Met Glu  
1 5 10 15  
Leu Val Val Thr Ser Arg Glu Thr Gly Lys Lys Ser Phe Leu Lys Lys  
20 25 30  
Ile Arg Gln Gln Gly Gly Ile Pro Ala Val Val Tyr Ser Ala Gly Lys  
35 40 45  
Ser Leu Ala Asn Ile Thr Val Asp Ala Leu Val Phe Lys Lys Phe Leu  
50 55 60  
Ser Asn Leu Glu Ser Gly Ala Leu Ser Ser Thr Val Phe Ser Leu Ser  
65 70 75 80  
Tyr Glu Gly Arg Ile Ile Lys Ala Leu Val Lys Asp Ile Gln Tyr Gln  
85 90 95  
Ile Thr Thr Tyr Asp Val Ile His Leu Asp Phe Glu Glu Leu Val Glu  
100 105 110  
Asp Arg Pro Ile Lys Leu Asn Ile Pro Ile Arg Cys Ile Asn Ala Val  
115 120 125  
Asp Cys Ile Gly Val Lys Leu Gly Gly Ser Leu Arg Gln Val Ile Arg  
130 135 140  
Ala Val Arg Val Val Cys Lys Pro Lys Asp Ile Val Pro Phe Leu Glu  
145 150 155 160  
Leu Asp Val Arg Ser Val Gly Leu Ser Gln Thr Arg Lys Leu Ser Asp  
165 170 175  
Ile Lys Ile Pro Ala Gly Ile Glu Thr Ile Thr Pro Leu Lys Glu Val  
180 185 190  
Ala Ile Thr Val Ser Arg Arg  
195

<210> 952  
<211> 186  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 952  
Pro Ser Leu Glu Asp Asn Met Ala Lys Leu Ile Val Ala Ile Gly Asn  
1 5 10 15  
Pro Arg His Gly Tyr Ala Asn Thr Arg His Asn Ala Gly Phe Leu Leu  
20 25 30  
Ala Asp Arg Leu Val Glu Glu Leu Gln Gly Pro Pro Phe Lys Pro Leu  
35 40 45  
Ser Lys Cys His Ala Leu Met Thr Leu Val Glu Ser Ser Ser Gly Pro  
50 55 60  
Leu Val Phe Ile Lys Pro Thr Thr Phe Val Asn Leu Ser Gly Lys Ala  
65 70 75 80  
Val Val Leu Ala Lys Lys Tyr Phe Asn Val Ala Leu Ser His Ile Leu  
85 90 95  
Val Leu Ala Asp Asp Val Asn Arg Ser Phe Gly Lys Leu Arg Leu Cys  
100 105 110

Phe Asn Gly Gly Ser Gly Gly His Asn Gly Leu Lys Ser Ile Thr Ala  
           115                  120                  125  
 Ser Leu Gly Ser Asn Glu Tyr Trp Gln Leu Arg Phe Gly Val Gly Arg  
           130                  135                  140  
 Pro Leu Glu Glu Gly Val Glu Leu Ser Asn Phe Val Leu Gly Lys Phe  
 145                  150                  155                  160  
 Ser Glu Glu Glu Asn Leu Gln Leu Gly Ser Ile Phe Val Glu Ala Ser  
                   165                  170                  175  
 Thr Leu Phe Thr Glu Trp Cys Ser Lys Phe  
                   180                  185

<210> 953

<211> 115

<212> PRT

<213> Chlamydia pneumoniae

<400> 953

Glu Phe Leu Met Gly Lys Lys Glu Asn Gln Leu Tyr Glu Gly Ala Tyr  
   1                  5                  10                  15  
 Val Phe Ser Val Thr Leu Ser Glu Glu Ala Arg Arg Lys Ala Leu Asp  
           20                  25                  30  
 Lys Val Ile Ser Gly Ile Thr Asn Tyr Gly Gly Glu Ile His Lys Ile  
           35                  40                  45  
 His Asp Gln Gly Arg Lys Lys Leu Ala Tyr Thr Ile Arg Gly Ala Arg  
           50                  55                  60  
 Glu Gly Tyr Tyr Tyr Phe Ile Tyr Phe Ser Val Ser Pro Gly Ala Ile  
 65                  70                  75                  80  
 Thr Glu Leu Trp Lys Glu Tyr His Leu Asn Glu Asp Leu Leu Arg Phe  
                   85                  90                  95  
 Met Thr Leu Arg Ala Asp Ser Val Lys Glu Val Leu Glu Phe Ala Ser  
           100                  105                  110  
 Leu Pro Glu  
           115

<210> 954

<211> 85

<212> PRT

<213> Chlamydia pneumoniae

<400> 954

Gly Glu Asn Met Asn Lys Pro Val His Asn Asn Glu His Arg Arg Lys  
   1                  5                  10                  15  
 Arg Phe Asn Lys Lys Cys Pro Phe Val Ser Ala Gly Trp Lys Thr Ile  
           20                  25                  30  
 Asp Tyr Lys Asp Val Glu Thr Leu Lys Lys Phe Ile Thr Glu Arg Gly  
           35                  40                  45  
 Lys Val Leu Pro Arg Arg Ile Thr Gly Val Ser Ser Arg Phe Gln Gly  
           50                  55                  60  
 Val Leu Ser Gln Ala Ile Lys Arg Ala Arg His Leu Gly Leu Leu Pro  
 65                  70                  75                  80  
 Phe Val Gly Glu Asp  
                   85

<210> 955

<211> 174

<212> PRT

<213> Chlamydia pneumoniae

<400> 955

Phe Lys Gly Arg Arg Met Lys Gln Gln Leu Leu Leu Leu Glu Asp Val  
   1                  5                  10                  15

Asp Gly Leu Gly Arg Ser Gly Asp Leu Ile Thr Ala Arg Pro Gly Tyr  
                   20                  25                  30  
 Val Arg Asn Tyr Leu Ile Pro Lys Lys Lys Ala Val Ile Ala Gly Ala  
                   35                  40                  45  
 Gly Thr Leu Arg Leu Gln Ala Lys Leu Lys Glu Gln Arg Leu Ile Gln  
                   50                  55                  60  
 Ala Ala Ala Asp Lys Ala Asp Ser Glu Arg Ile Ala Gln Ala Leu Lys  
   65                  70                  75                  80  
 Asp Ile Val Leu Glu Phe Gln Val Arg Val Asp Pro Asp Asn Asn Met  
                   85                  90                  95  
 Tyr Gly Ser Val Thr Ile Ala Asp Ile Ile Ala Glu Ala Ala Lys Lys  
                   100                  105                  110  
 Asn Ile Phe Leu Val Arg Lys Asn Phe Pro His Ala His Tyr Ala Ile  
                   115                  120                  125  
 Lys Asn Leu Gly Lys Lys Asn Ile Pro Leu Lys Leu Lys Glu Glu Val  
                   130                  135                  140  
 Thr Ala Thr Leu Leu Val Glu Val Thr Ser Asp Asn Glu Tyr Val Thr  
  145                  150                  155                  160  
 Val Leu Ala Gln Gly Lys Gln Thr Glu Glu Asn Gln Glu Gly  
                   165                  170

<210> 956  
 <211> 150  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 956  
 Gly Arg Lys Val Cys Tyr Lys Asp Ile Met Gln Tyr Phe Ser Pro Ala  
   1                  5                  10                  15  
 Lys Leu Asn Leu Phe Leu Lys Ile Trp Gly Lys Arg Phe Asp Asn Phe  
                   20                  25                  30  
 His Glu Leu Thr Thr Leu Tyr Gln Ala Ile Asp Phe Gly Asp Thr Leu  
                   35                  40                  45  
 Ser Leu Lys Asn Ser Met Lys Asp Ser Leu Ser Ser Asn Val Asn Glu  
                   50                  55                  60  
 Leu Leu Ser Pro Ser Asn Leu Ile Trp Lys Ser Leu Glu Ile Phe Arg  
   65                  70                  75                  80  
 Arg Glu Thr Gln Ile His Gln Pro Val Ser Trp His Leu Asn Lys Ser  
                   85                  90                  95  
 Ile Pro Leu Gln Ser Gly Leu Gly Gly Gly Ser Ser Asn Ala Ala Thr  
                   100                  105                  110  
 Ala Leu Tyr Ala Leu Asn Glu His Phe Gln Thr His Ile Pro Ile Thr  
                   115                  120                  125  
 Thr Leu Gln Leu Trp Ala Arg Glu Ile Gly Ser Asp Val Pro Phe Phe  
                   130                  135                  140  
 Phe Leu Gln Glu Gln His  
  145                  150

<210> 957  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 957  
 Arg Ala Phe Pro Asn Pro Tyr Ser Tyr Asn Asn Ile Ala Thr Leu Gly  
   1                  5                  10                  15  
 Ser Arg Asn Arg Lys Arg Cys Ser Phe Phe Phe Ser Ser Gly Thr Ala  
                   20                  25                  30  
 Leu Gly Lys Gly Arg Gly Glu His Leu Phe Ser Ile Lys Lys Leu Asn  
                   35                  40                  45

His Lys His Lys Tyr Val Leu Tyr Leu Asp His Gln Gly Ile Pro Thr  
 50 55 60  
 Glu Lys Ala Tyr Gln Ser Leu Leu Pro Gln Asp Tyr Ser Thr Gly Asn  
 65 70 75 80  
 His Asn Ala Cys Phe Tyr Gly Glu Asn Asp Leu Glu Lys Ser Val Phe  
 85 90 95  
 Arg Ile Arg Thr Asp Leu Lys Asn Lys Lys His Met Leu Glu Arg Met  
 100 105 110  
 Trp Ser Pro Phe Glu Ser His Val Leu Met Ser Gly Ser Gly Ala Thr  
 115 120 125  
 Leu Phe Val Cys Tyr Leu Glu Glu Leu Glu Gln Asp Ser Lys Val Ser  
 130 135 140  
 Ser Gln Ile His Ser Leu Ile Lys Gln Thr Gln Gly Ile Pro Val Ser  
 145 150 155 160  
 Arg Leu Tyr Arg Glu Pro His Trp Tyr Ser Leu Lys Gln Ser Thr Tyr  
 165 170 175  
 Lys Asn Ser Pro Leu Glu Cys Phe Gln Pro Gln Ile  
 180 185

<210> 958

<211> 455

<212> PRT

<213> Chlamydia pneumoniae

<400> 958

Leu Val Trp Phe Ser Met Ile Leu Pro Pro Tyr Ser Tyr Ser Leu Lys  
 1 5 10 15  
 Ile Gly Ala Ala Val Leu Phe Phe Cys Ser Ile Leu His Thr Phe Leu  
 20 25 30  
 Thr Pro Trp Leu Tyr Thr Leu Cys Gln Ser Tyr Glu His Lys Lys Leu  
 35 40 45  
 Val Phe Pro Glu Cys Trp Lys Arg Tyr Ala Arg Leu Ser Glu Leu Phe  
 50 55 60  
 Arg Ile Leu Ser Arg Val Glu Ile Val Phe Phe Leu Trp Ala Val Pro  
 65 70 75 80  
 Leu Phe Phe Trp Phe Leu Tyr Thr Glu Gly Tyr Arg Ile Ser Met Ala  
 85 90 95  
 Tyr Phe Asn Ser Arg Asn Tyr Gly Phe Ala Val Phe Ile Met Val Ile  
 100 105 110  
 Leu Ile Leu Leu Glu Ser Arg Pro Ile Val Tyr Phe Ala Glu Leu Val  
 115 120 125  
 Leu Ser Ser Ile Ala Lys Leu Gly Lys Thr Ser Pro Lys Ser Trp Trp  
 130 135 140  
 Trp Thr Leu Met Ile Ala Pro Pro Leu Leu Ser Cys Leu Leu Lys Glu  
 145 150 155 160  
 Thr Gly Ala Met Ile Ile Gly Ala Thr Leu Leu Met Arg His Phe Tyr  
 165 170 175  
 Val Phe Ser Pro Ser Arg Arg Phe Ala Tyr Ala Thr Met Gly Leu Leu  
 180 185 190  
 Phe Ser Asn Ile Ser Ile Gly Gly Leu Thr Ser Tyr Val Ser Ser Arg  
 195 200 205  
 Ala Leu Phe Leu Ile Phe Pro Ala Leu Lys Trp Glu His Ser Phe Phe  
 210 215 220  
 Leu Ser His Phe Ala Trp Lys Ala Ile Val Ala Ile Leu Ile Ser Thr  
 225 230 235 240  
 Thr Ile Tyr Tyr Phe Ile Phe Arg Lys Glu Phe Lys Lys Phe Pro Asp  
 245 250 255  
 Ile Pro Ser Asp Lys Asp Pro Ser Val Glu Lys Val Pro Trp Trp Ile  
 260 265 270  
 Ile Cys Val Asn Ile Ile Phe Val Gly Ser Ile Ile Leu Ser Arg Ser  
 275 280 285



Thr Pro Leu Phe Met Gly Ala Leu Leu Leu Phe Tyr Leu Gly Phe Gln  
 290 295 300  
 Lys Phe Thr Ile Phe Tyr Gln Asp Pro Ile Asn Leu Ser Lys Val Cys  
 305 310 315 320  
 Tyr Val Gly Leu Phe Tyr Ala Gly Leu Val Val Phe Gly Asp Leu Gln  
 325 330 335  
 Glu Trp Trp Val Leu Asn Leu Met Gln Gly Leu Ser Asp Phe Gly Tyr  
 340 345 350  
 Met Thr Val Ser Tyr Thr Leu Ser Ile Phe Leu Asp Asn Ala Leu Val  
 355 360 365  
 Asn Tyr Leu Val His Asn Leu Ser Val Ala Thr Asp Cys Tyr His Tyr  
 370 375 380  
 Leu Val Val Ala Gly Cys Met Ala Ala Gly Gly Leu Thr Leu Val Ser  
 385 390 395 400  
 Asn Ile Pro Asn Ile Val Gly Tyr Leu Ile Leu Arg Ser Ala Phe Pro  
 405 410 415  
 Ser Ser Thr Ile His Met Gly Trp Leu Phe Leu Gly Ala Leu Gly Pro  
 420 425 430  
 Ser Ile Ile Ser Leu Gly Val Phe Trp Leu Leu Lys Asn Val Pro Glu  
 435 440 445  
 Phe Leu Tyr Cys Phe Phe Arg  
 450 455

<210> 959

<211> 950

<212> PRT

<213> Chlamydia pneumoniae

<400> 959

Lys Ile Tyr Thr Arg Asn Cys Lys Met Phe Trp Lys Leu Leu Cys Pro  
 1 5 10 15  
 Ile Leu Ile Cys Thr Ser Leu Ser Ile Thr Ser Cys Glu Gln Gln Phe  
 20 25 30  
 Lys Val Val Pro Asn Gln Cys Pro Leu Gln Val Ser Thr Pro Ala Ala  
 35 40 45  
 Ala Asp Gln Lys Ile Glu Lys Ile Ile Cys Ser Asn Gly Leu Pro Leu  
 50 55 60  
 Leu Ile Ile Ser Asp Pro Asn Leu Pro Thr Ser Gly Ala Ala Leu Leu  
 65 70 75 80  
 Val Lys Thr Gly Asn Asn Ala Asp Pro Glu Glu Tyr Pro Gly Met Ala  
 85 90 95  
 His Phe Thr Glu His Cys Val Phe Leu Gly Asn Glu Lys Tyr Pro Glu  
 100 105 110  
 Val Ser Gly Phe Pro Gly Phe Leu Ser Glu Asn Asn Gly Val His Asn  
 115 120 125  
 Ala Phe Thr Tyr Pro Asn Lys Thr Val Phe Val Phe Ser Val Glu His  
 130 135 140  
 Ser Ala Phe Ser Asp Ala Leu Asp Gln Phe Val His Leu Phe Ile Asn  
 145 150 155 160  
 Pro Lys Phe Arg Gln Glu Asp Leu Asp Arg Glu Lys Tyr Ala Val His  
 165 170 175  
 Gln Glu Phe Ala Ala His Pro Leu Ser Asp Gly Arg Arg Val His Arg  
 180 185 190  
 Ile Gln Gln Leu Val Ala Pro Gln Gly His Pro Cys Ala Arg Phe Gly  
 195 200 205  
 Cys Gly Asn Ala Ser Thr Leu Thr Pro Val Thr Thr Glu Lys Met Ala  
 210 215 220  
 Glu Trp Phe Lys Leu His Tyr Ser Pro Glu Asn Met Cys Ala Ile Ala  
 225 230 235 240  
 Tyr Thr Ser Ala Pro Leu Ser Lys Ala Lys Lys Gln Phe Ser Lys Ile  
 245 250 255

Phe	Ser	Gln	Ile	Pro	Arg	Ser	Lys	Asn	Tyr	Glu	Arg	Gln	Glu	Pro	Phe
			260					265					270		
Leu	Pro	Ser	Gly	Asp	Thr	Ser	Ser	Leu	Lys	Asn	Leu	Tyr	Ile	Asn	Gln
		275					280					285			
Ala	Ile	Gln	Pro	Thr	Ser	Asn	Leu	Glu	Ile	Tyr	Trp	His	Ile	Tyr	Glu
	290					295					300				
Ser	Ser	His	Pro	Ile	Pro	Leu	Gly	Cys	Tyr	Lys	Ala	Leu	Ala	Glu	Val
305					310					315				320	
Leu	Arg	Asn	Glu	Ser	Lys	Asn	Ser	Leu	Val	Ser	Leu	Leu	Lys	Asn	Glu
			325						330					335	
Gln	Leu	Ile	Thr	Asp	Leu	Asp	Val	Glu	Phe	Phe	Arg	Ser	Ser	Leu	Asn
		340						345					350		
Thr	Gly	Glu	Phe	Tyr	Ile	Ser	Tyr	Glu	Leu	Thr	Glu	Lys	Gly	Asp	Lys
	355						360					365			
His	Tyr	Ser	Gln	Val	Ile	Asp	Ser	Thr	Phe	Gln	Tyr	Leu	Arg	Tyr	Ile
	370					375					380				
Gln	Glu	His	Gly	Ile	Pro	Asn	Tyr	Thr	Leu	Glu	Glu	Ile	Ser	Thr	Ile
385					390					395					400
Asn	Ala	Leu	Asn	Tyr	Cys	Tyr	Ser	Ser	Lys	Ser	Pro	Leu	Phe	Asp	Leu
			405						410					415	
Leu	Cys	Lys	Gln	Ile	Val	Ser	Leu	Gly	Asn	Glu	Asp	Leu	Ser	Thr	Tyr
		420						425				430			
Pro	Tyr	His	Ser	Leu	Val	Tyr	Pro	Lys	Tyr	Ser	Ser	Glu	Asp	Glu	Ser
	435						440					445			
Ala	Leu	Leu	Asn	Leu	Val	Ser	Asp	Pro	Glu	Gln	Ala	Arg	Phe	Val	Leu
	450					455					460				
Ser	Ser	Lys	Asn	Ser	Glu	His	Trp	Glu	Glu	Ala	Thr	Gln	Leu	His	Asp
465					470					475				480	
Pro	Ile	Phe	Asp	Met	Thr	Tyr	Tyr	Val	Lys	Ala	Leu	Asp	Gly	Val	Gln
			485						490					495	
Asp	Tyr	Gly	Lys	Val	Gln	Ser	Leu	Lys	Pro	Ile	Ala	Leu	Pro	Lys	Pro
		500						505				510			
Asn	Leu	Phe	Ile	Pro	Lys	Glu	Val	Thr	Leu	Pro	Gly	Val	His	Leu	Leu
	515						520					525			
Lys	Lys	Gln	Glu	Phe	Pro	Phe	Ala	Pro	Ala	Leu	Ser	Tyr	Gln	Asp	Asp
	530					535					540				
Lys	Leu	Thr	Leu	Tyr	His	Cys	Glu	Asp	His	Tyr	Tyr	Thr	Ala	Pro	Lys
545					550					555					560
Leu	Ser	Ser	Gln	Ile	Arg	Ile	Arg	Ser	Pro	Gln	Ile	Ser	Arg	Ser	Ser
			565						570					575	
Pro	Gln	Phe	Leu	Val	Ala	Thr	Glu	Leu	Tyr	Cys	Leu	Ala	Val	Asn	Asp
		580						585					590		
Gln	Leu	Leu	Arg	Glu	Tyr	Tyr	Pro	Ala	Thr	Gln	Ala	Gly	Leu	Ser	Phe
	595						600					605			
Thr	Ser	Ala	Leu	Gly	Gly	Asp	Gly	Ile	Asp	Leu	Arg	Val	Ser	Gly	Tyr
	610					615					620				
Thr	Thr	Thr	Val	Pro	Ala	Leu	Leu	Asn	Ser	Ile	Leu	Thr	Ser	Leu	Pro
625					630					635					640
Asn	Leu	Glu	Ile	Ser	Tyr	Glu	Thr	Phe	Leu	Val	Tyr	Lys	Lys	Gln	Leu
			645						650					655	
Leu	Glu	Leu	Tyr	Gln	Gly	Ala	Leu	Leu	Asn	Cys	Pro	Val	Arg	Ser	Gly
		660						665					670		
Leu	Asp	Glu	Leu	Ala	Ser	Gln	Val	Met	Lys	Glu	Thr	Tyr	Ser	Asn	Thr
	675						680					685			
Thr	Lys	Leu	Ser	Ala	Leu	Glu	Lys	Leu	Ser	Phe	Ser	Glu	Phe	Gln	Ala
	690					695					700				
Phe	Ala	Ser	Asn	Leu	Phe	Asn	Ser	Val	His	Leu	Glu	Val	Met	Val	Leu
705					710					715					720
Gly	Asn	Leu	Ser	Glu	Gln	Gln	Lys	Lys	Asp	Tyr	Leu	Glu	Met	Leu	Gln
			725						730					735	

Val	Phe	Thr	Ala	Ser	Arg	Ser	Ser	His	Ala	Thr	Lys	Pro	Phe	Tyr	Tyr
			740					745					750		
Glu	Leu	Gln	Ser	Gln	Glu	Ile	Ser	Glu	Ile	His	His	Asp	Tyr	Pro	Leu
			755					760					765		
Thr	Ala	Asn	Gly	Met	Leu	Leu	Leu	Leu	Gln	Asp	Lys	Ser	Ser	Pro	Ser
			770					775					780		
Ile	Gln	Gly	Lys	Val	Cys	Ala	Glu	Met	Leu	Phe	Glu	Trp	Leu	His	His
					790						795				800
Ile	Thr	Phe	Glu	Glu	Leu	Arg	Thr	Gln	Gln	Gln	Leu	Gly	Tyr	Met	Val
				805						810					815
Gly	Ala	Arg	Tyr	Arg	Glu	Phe	Ala	Ser	Arg	Pro	Phe	Gly	Phe	Leu	Tyr
			820					825					830		
Ile	Arg	Ser	Asp	Ala	Tyr	Ser	Pro	Glu	Glu	Leu	Leu	Ala	Lys	Thr	Ser
			835					840					845		
Leu	Phe	Leu	Asn	Lys	Val	Ser	Ala	Ser	Pro	Glu	Lys	Phe	Gly	Ile	Ser
			850				855					860			
Gln	Glu	Lys	Phe	Ala	Asn	Ile	Arg	Lys	Ala	Tyr	Ile	Asn	Lys	Ile	Leu
					870						875				880
Glu	Pro	Glu	His	Ser	Leu	Asp	Met	Met	Asn	Ser	Ala	Leu	Phe	Ser	Leu
				885						890					895
Ala	Phe	Glu	Arg	Pro	Phe	Val	Glu	Phe	Ser	Thr	Pro	Asp	Leu	Lys	Ile
			900						905					910	
Ala	Ile	Ala	Glu	Thr	Leu	Thr	Tyr	Glu	Glu	Phe	Leu	Lys	Tyr	Cys	Gln
			915				920						925		
Cys	Phe	Leu	Ser	Asn	Glu	Leu	Gly	Thr	Gln	Thr	Ser	Val	Tyr	Ile	Arg
			930				935					940			
Gly	Thr	Gln	Lys	Thr	Ser										
			945				950								

<210> 960

<211> 337

<212> PRT

<213> Chlamydia pneumoniae

<400> 960

Ile	Tyr	Arg	Ala	Ile	Tyr	Met	Gln	Phe	Ser	Arg	Tyr	Leu	Arg	Tyr	Ala
1				5					10					15	
Phe	Asp	Asn	Gln	Tyr	Leu	Pro	Glu	Pro	Leu	Tyr	Gln	Lys	Phe	Ser	Val
			20					25					30		
Phe	His	Gln	Asn	Tyr	Ile	Asp	Ala	Ala	Thr	Lys	Lys	Ala	Ala	Ala	Asp
			35				40					45			
Gln	Ala	Glu	Val	Leu	Cys	Leu	Gln	Trp	Val	Lys	Val	Ile	Ile	Glu	Asp
			50				55				60				
Leu	Lys	Asn	Pro	Phe	Ile	Phe	Pro	Pro	Tyr	His	Lys	Lys	Ile	Arg	Ala
					70					75					80
Pro	Ile	Asp	Leu	Phe	Arg	Leu	Ser	Ile	Asp	Phe	Phe	Ser	Leu	Val	Ile
				85					90					95	
Asp	Asp	Lys	Asn	Ser	Arg	Ile	Leu	Asn	Leu	His	Arg	Leu	Lys	Glu	Ile
			100					105					110		
Glu	Glu	Tyr	Ile	Ala	Arg	Gly	Asp	Asn	Val	Val	Leu	Leu	Ala	Asn	His
			115				120					125			
Gln	Thr	Glu	Cys	Asp	Pro	Gln	Leu	Met	Tyr	Tyr	Ala	Leu	Gly	Lys	Thr
			130				135				140				
His	Pro	Glu	Leu	Met	Glu	Asn	Met	Ile	Phe	Val	Ala	Gly	Asp	Arg	Val
				145			150				155				160
Thr	Ser	Asp	Pro	Leu	Ala	Arg	Pro	Phe	Ser	Met	Gly	Cys	Asp	Leu	Leu
				165					170					175	
Cys	Ile	Tyr	Ser	Lys	Arg	His	Ile	Ala	Thr	Pro	Pro	Glu	Leu	Arg	Glu
			180					185					190		
Glu	Lys	Leu	His	Asn	Gln	Lys	Ser	Met	Gln	Ile	Leu	Lys	Thr	Leu	
			195				200					205			

Leu Asn Glu Gly Gly Lys Phe Ile Tyr Val Ala Pro Ala Gly Gly Arg  
 210 215 220  
 Asp Arg Lys Asn Ala Glu Gly Arg Leu Tyr Pro Ser Glu Phe Ser Pro  
 225 230 235 240  
 Glu Ser Ile Glu Val Phe Arg Leu Leu Ala Lys Ala Ser Asn Gln Thr  
 245 250 255  
 Thr His Phe Tyr Pro Phe Ala Leu Lys Thr Tyr Asp Ile Leu Pro Pro  
 260 265 270  
 Pro Pro Lys Ile Glu Asn Ala Ile Gly Glu Gln Arg Ala Ile Phe Phe  
 275 280 285  
 Ala Pro Val Phe Phe Asn Phe Gly Ala Glu Leu Phe Phe Asp Ala Leu  
 290 295 300  
 Cys Ser Lys Glu Glu Leu Ile His Cys Asp Lys His Ala Gln Arg Thr  
 305 310 315 320  
 Leu Arg Ala Glu Lys Val Phe Ser Ile Val Lys Asn Leu Tyr Glu Glu  
 325 330 335  
 Leu

<210> 961  
 <211> 526  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 961  
 Ala Gln Gly Tyr Gly Ile Gly Thr Arg Lys Val Met Glu Asn Glu Ile  
 1 5 10 15  
 Leu Leu Asn Ile Glu Ser Lys Glu Ile Arg Tyr Ala His Leu Lys Asn  
 20 25 30  
 Gly Gln Leu Phe Asp Leu Thr Ile Glu Arg Lys Lys Val Arg Gln Leu  
 35 40 45  
 Lys Gly Asn Ile Tyr Arg Gly Arg Val Thr Asn Ile Leu Arg Asn Ile  
 50 55 60  
 Gln Ser Ala Phe Ile Asn Ile Asp Glu Arg Glu Asn Gly Phe Ile His  
 65 70 75 80  
 Ile Ser Asp Ile Leu Glu Asn Ser Lys Lys Phe Glu Gln Met Phe Asp  
 85 90 95  
 Met Asp Val Asp Ala Leu Pro Glu Glu Ala Ser Glu Ala Pro Leu Leu  
 100 105 110  
 Ser Ser Glu Glu Ala Pro Ile Glu Glu Phe Leu Lys Leu Asp Ser Pro  
 115 120 125  
 Val Leu Val Gln Val Val Lys Glu Pro Ile Gly Ser Lys Gly Ala Arg  
 130 135 140  
 Leu Thr Ser Asn Ile Ser Ile Pro Gly Arg Tyr Leu Val Leu Leu Pro  
 145 150 155 160  
 Asn Ser Pro His Arg Gly Val Ser Arg Lys Ile Glu Asp Pro His Met  
 165 170 175  
 Arg Glu Gln Leu Lys Gln Leu Ile Arg Ser Phe Glu Met Pro Gln Asp  
 180 185 190  
 Met Gly Leu Ile Cys Arg Thr Ala Ser Thr Thr Ala Ser Thr Glu Ala  
 195 200 205  
 Leu Ile Asn Glu Ala His Asp Leu Leu Leu Thr Trp Lys Thr Ile Leu  
 210 215 220  
 Glu Lys Phe Tyr Ser Thr Glu Gln Pro Cys Leu Leu Tyr Ser Glu Thr  
 225 230 235 240  
 Asp Ile Leu Lys Lys Ala Val Ile Thr Cys Ile Asp Lys Asn Tyr Lys  
 245 250 255  
 Arg Leu Leu Ile Asp Asp Tyr Ala Thr Tyr Gln Lys Cys Lys His Met  
 260 265 270  
 Leu Lys Lys Tyr Ser Pro Asp Ala Ser Ile Lys Ile Glu Tyr Tyr Arg  
 275 280 285

Asp	Ser	Ile	Pro	Met	Phe	Glu	Arg	Phe	Asn	Ile	Glu	Lys	Glu	Ile	Asp
290						295					300				
Lys	Ala	Thr	Arg	Arg	Lys	Ile	Trp	Leu	Ser	Ser	Gly	Gly	Tyr	Leu	Phe
305					310					315					320
Phe	Asp	Lys	Thr	Glu	Ala	Met	His	Thr	Ile	Asp	Val	Asn	Ser	Gly	Arg
				325					330					335	
Ser	Thr	Gln	Leu	Glu	Ser	Gly	Val	Glu	Glu	Thr	Leu	Val	Gln	Ile	Asn
		340						345					350		
Leu	Glu	Ala	Ala	Glu	Glu	Ile	Ala	Arg	Gln	Leu	Arg	Leu	Arg	Asn	Val
		355					360					365			
Gly	Gly	Leu	Val	Ile	Ile	Asp	Phe	Ile	Asp	Met	Lys	Ser	Arg	Lys	Asn
	370					375					380				
Gln	Arg	Arg	Val	Leu	Glu	Arg	Leu	Lys	Glu	His	Met	Lys	Tyr	Asp	Ala
385					390					395					400
Ala	Arg	Cys	Thr	Ile	Leu	Ser	Met	Ser	Glu	Phe	Gly	Leu	Val	Glu	Met
				405					410					415	
Thr	Arg	Gln	Arg	Asn	Arg	Glu	Ser	Leu	Met	Gln	Thr	Leu	Phe	Thr	Leu
		420						425					430		
Cys	Pro	Tyr	Cys	Ser	Gly	Asn	Ala	Ile	Ile	Lys	Thr	Pro	Glu	Ser	Val
		435				440						445			
Val	Ile	Glu	Ile	Glu	Arg	Asp	Leu	Lys	Lys	Val	Ile	Asn	His	Lys	Glu
	450					455				460					
His	Ser	His	Leu	Cys	Leu	Val	Val	His	Pro	Glu	Ile	Ala	Ser	Tyr	Met
465					470					475					480
Lys	Gln	Glu	Asn	Asp	Asn	Glu	Met	Ile	Asn	Leu	Ala	Lys	Gln	Leu	
			485					490					495		
Lys	Ala	Lys	Leu	Gln	Ile	Asn	Thr	Ser	Asp	Ser	Val	His	Leu	Asn	His
			500					505					510		
Tyr	Gln	Phe	Phe	Ser	Leu	Ile	Thr	Gly	Glu	Ser	Ile	Asp	Leu		
		515					520					525			

<210> 962

<211> 176

<212> PRT

<213> Chlamydia pneumoniae

<400> 962

Ser	Leu	Ser	Leu	Val	Ser	Tyr	Leu	Ser	Asn	Pro	Gln	Lys	Ala	Leu	Val
1			5						10					15	
Leu	Gly	Ser	Lys	Gly	Phe	Ser	Met	Asp	Cys	Val	Asp	Asn	Leu	Lys	Leu
			20					25					30		
Tyr	Ile	Phe	Arg	Leu	Lys	Leu	Pro	Gly	Asp	Thr	Glu	Arg	Ile	Ser	Tyr
	35						40					45			
Ser	Ile	Ser	Pro	Glu	Tyr	Ile	Arg	Glu	Lys	Gly	Glu	Glu	Leu	Leu	
	50					55					60				
Asn	Ser	Pro	Ile	Glu	Val	Glu	Gly	Ser	Leu	Gly	Arg	Ile	Asp	Ser	Asp
65					70					75					80
Gln	Trp	Ile	Leu	Ser	Leu	Ser	Leu	Lys	Thr	Gln	Leu	Gly	Leu	Cys	Cys
			85						90					95	
Pro	Val	Cys	Asn	Asn	Phe	Phe	Ser	His	Ser	Val	Cys	Leu	Pro	Asp	Leu
			100					105					110		
Gln	Arg	Val	Ile	Ser	His	Asp	Glu	Val	Gly	Ser	Gly	Val	Phe	Asp	Cys
		115					120					125			
Arg	Pro	Leu	Ile	Arg	Gln	Glu	Leu	Leu	Leu	Glu	Ser	Asp	Cys	Phe	Glu
	130					135					140				
Glu	Cys	Ser	Gly	Gln	Gly	Cys	Pro	Glu	Arg	Lys	Asn	Ile	Leu	Lys	Phe
145					150					155					160
Leu	Glu	Asp	Arg	Lys	Lys	His	Glu	Gly	Asn	Ser	Pro	Phe	Glu	Tyr	Leu
				165					170					175	

<210> 963  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 963  
 Lys Val Arg Asn Met Ala Val Pro Arg Asn Arg His Ser Asn Ala Arg  
 1 5 10 15  
 Lys Asn Ile Arg Arg Ser His Asp Ala Lys Lys Ala Cys His Ala Ala  
 20 25 30  
 Lys Cys Ser Asn Cys Lys His Ala Leu Leu Pro His Thr Ile Cys Pro  
 35 40 45  
 Ser Cys Gly Phe Tyr Asn Gly Lys Ala Val Met Thr Val Glu Lys Lys  
 50 55 60

<210> 964  
 <211> 325  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 964  
 Ile Leu Ser Asp Phe Met Glu Val Gln Ile Gly Ile Asp Leu Met Gly  
 1 5 10 15  
 Gly Asp His Ser Pro Leu Val Val Trp Gln Val Leu Val Asp Val Leu  
 20 25 30  
 Lys Ser Gln Ser Ser Thr Ile Pro Phe Ala Phe Thr Leu Phe Ala Ser  
 35 40 45  
 Glu Glu Ile Arg Lys Gln Ile Gln Glu Glu Phe Ile Ser Asp Leu Pro  
 50 55 60  
 Gln Glu Lys Phe Pro Lys Ile Ile Ser Ala Glu Asn Phe Val Ala Met  
 65 70 75 80  
 Glu Asp Ser Pro Leu Ala Ala Ile Arg Lys Lys Ser Ser Ser Met Ala  
 85 90 95  
 Leu Gly Leu Asp Tyr Leu Gln Glu Asp Lys Leu Asp Ala Phe Ile Ser  
 100 105 110  
 Thr Gly Asn Thr Gly Ala Leu Val Thr Leu Ala Arg Ala Lys Ile Pro  
 115 120 125  
 Leu Phe Pro Ala Val Ser Arg Pro Ala Leu Leu Val Cys Val Pro Thr  
 130 135 140  
 Met Arg Gly His Ala Val Ile Leu Asp Val Gly Ala Asn Ile Ser Val  
 145 150 155 160  
 Lys Pro Glu Glu Met Val Gly Phe Ala Arg Met Gly Leu Ala Tyr Arg  
 165 170 175  
 Gln Cys Leu Gly Asp Ser Lys Ile Pro Thr Ile Gly Leu Leu Asn Ile  
 180 185 190  
 Gly Ser Glu Glu Arg Lys Gly Thr Glu Ala His Arg Gln Thr Phe Arg  
 195 200 205  
 Met Leu Arg Glu Thr Phe Gly Glu Ala Phe Leu Gly Asn Ile Glu Ser  
 210 215 220  
 Gly Ala Val Phe Asp Gly Ala Ala Asp Ile Val Val Thr Asp Gly Phe  
 225 230 235 240  
 Thr Gly Asn Ile Phe Leu Lys Thr Ala Glu Gly Val Phe Glu Phe Leu  
 245 250 255  
 Gln Arg Ile Leu Gly Asp Lys Leu Glu Ala Asp Ile Gln Arg Arg Leu  
 260 265 270  
 Asp Tyr Thr Phe Tyr Pro Gly Ser Val Val Cys Gly Leu Ser Lys Leu  
 275 280 285  
 Val Ile Lys Cys His Gly Lys Ala Cys Gly Ser Ser Leu Phe His Gly  
 290 295 300  
 Ile Leu Gly Ser Ile Asn Leu Ala Gln Ala Arg Leu Cys Lys Arg Ile  
 305 310 315 320

Leu Ser Asn Leu Ile  
325

<210> 965

<211> 1617

<212> PRT

<213> Chlamydia pneumoniae

<400> 965

Thr	Pro	Leu	Arg	Phe	Lys	Val	Ala	Met	Val	Ala	Lys	Lys	Thr	Val	Arg
1				5					10					15	
Ser	Tyr	Arg	Ser	Ser	Phe	Ser	His	Ser	Val	Ile	Val	Ala	Ile	Leu	Ser
		20						25					30		
Ala	Gly	Ile	Ala	Phe	Glu	Ala	His	Ser	Leu	His	Ser	Ser	Glu	Leu	Asp
		35					40					45			
Leu	Gly	Val	Phe	Asn	Lys	Gln	Phe	Glu	Glu	His	Ser	Ala	His	Val	Glu
	50					55					60				
Glu	Ala	Gln	Thr	Ser	Val	Leu	Lys	Gly	Ser	Asp	Pro	Val	Asn	Pro	Ser
65					70					75					80
Gln	Lys	Glu	Ser	Glu	Lys	Val	Leu	Tyr	Thr	Gln	Val	Pro	Leu	Thr	Gln
				85					90					95	
Gly	Ser	Ser	Gly	Glu	Ser	Leu	Asp	Leu	Ala	Asp	Ala	Asn	Phe	Leu	Glu
			100					105					110		
His	Phe	Gln	His	Leu	Phe	Glu	Glu	Thr	Thr	Val	Phe	Gly	Ile	Asp	Gln
		115					120					125			
Lys	Leu	Val	Trp	Ser	Asp	Leu	Asp	Thr	Arg	Asn	Phe	Ser	Gln	Pro	Thr
	130					135					140				
Gln	Glu	Pro	Asp	Thr	Ser	Asn	Ala	Val	Ser	Glu	Lys	Ile	Ser	Ser	Asp
145					150					155					160
Thr	Lys	Glu	Asn	Arg	Lys	Asp	Leu	Glu	Thr	Glu	Asp	Pro	Ser	Lys	Lys
				165					170					175	
Ser	Gly	Leu	Lys	Glu	Val	Ser	Ser	Asp	Leu	Pro	Lys	Ser	Pro	Glu	Thr
		180						185					190		
Ala	Val	Ala	Ala	Ile	Ser	Glu	Asp	Leu	Glu	Ile	Ser	Glu	Asn	Ile	Ser
		195					200					205			
Ala	Arg	Asp	Pro	Leu	Gln	Gly	Leu	Ala	Phe	Phe	Tyr	Lys	Asn	Thr	Ser
	210					215					220				
Ser	Gln	Ser	Ile	Ser	Glu	Lys	Asp	Ser	Ser	Phe	Gln	Gly	Ile	Ile	Phe
225					230					235					240
Ser	Gly	Ser	Gly	Ala	Asn	Ser	Gly	Leu	Gly	Phe	Glu	Asn	Leu	Lys	Ala
				245					250					255	
Pro	Lys	Ser	Gly	Ala	Ala	Val	Tyr	Ser	Asp	Arg	Asp	Ile	Val	Phe	Glu
			260					265					270		
Asn	Leu	Val	Lys	Gly	Leu	Ser	Phe	Ile	Ser	Cys	Glu	Ser	Leu	Glu	Asp
		275					280					285			
Gly	Ser	Ala	Ala	Gly	Val	Asn	Ile	Val	Val	Thr	His	Cys	Gly	Asp	Val
	290					295					300				
Thr	Leu	Thr	Asp	Cys	Ala	Thr	Gly	Leu	Asp	Leu	Glu	Ala	Leu	Arg	Leu
305					310					315					320
Val	Lys	Asp	Phe	Ser	Arg	Gly	Gly	Ala	Val	Phe	Thr	Ala	Arg	Asn	His
				325					330					335	
Glu	Val	Gln	Asn	Asn	Leu	Ala	Gly	Gly	Ile	Leu	Ser	Val	Val	Gly	Asn
			340					345					350		
Lys	Gly	Ala	Ile	Val	Val	Glu	Lys	Asn	Ser	Ala	Glu	Lys	Ser	Asn	Gly
		355					360					365			
Gly	Ala	Phe	Ala	Cys	Gly	Ser	Phe	Val	Tyr	Ser	Asn	Asn	Glu	Asn	Thr
	370					375					380				
Ala	Leu	Trp	Lys	Glu	Asn	Gln	Ala	Leu	Ser	Gly	Gly	Ala	Ile	Ser	Ser
385					390					395					400
Ala	Ser	Asp	Ile	Asp	Ile	Gln	Gly	Asn	Cys	Ser	Ala	Ile	Glu	Phe	Ser
				405					410					415	

Gly	Asn	Gln	Ser	Leu	Ile	Ala	Leu	Gly	Glu	His	Ile	Gly	Leu	Thr	Asp
			420					425					430		
Phe	Val	Gly	Gly	Gly	Ala	Leu	Ala	Ala	Gln	Gly	Thr	Leu	Thr	Leu	Arg
		435					440						445		
Asn	Asn	Ala	Val	Val	Gln	Cys	Val	Lys	Asn	Thr	Ser	Lys	Thr	His	Gly
		450				455						460			
Gly	Ala	Ile	Leu	Ala	Gly	Thr	Val	Asp	Leu	Asn	Glu	Thr	Ile	Ser	Glu
465					470					475					480
Val	Ala	Phe	Lys	Gln	Asn	Thr	Ala	Ala	Leu	Thr	Gly	Gly	Ala	Leu	Ser
			485						490					495	
Ala	Asn	Asp	Lys	Val	Ile	Ile	Ala	Asn	Asn	Phe	Gly	Glu	Ile	Leu	Phe
			500					505						510	
Glu	Gln	Asn	Glu	Val	Arg	Asn	His	Gly	Gly	Ala	Ile	Tyr	Cys	Gly	Cys
		515					520						525		
Arg	Ser	Asn	Pro	Lys	Leu	Glu	Gln	Lys	Asp	Ser	Gly	Glu	Asn	Ile	Asn
	530					535					540				
Ile	Ile	Gly	Asn	Ser	Gly	Ala	Ile	Thr	Phe	Leu	Lys	Asn	Lys	Ala	Ser
545					550					555					560
Val	Leu	Glu	Val	Met	Thr	Gln	Ala	Glu	Asp	Tyr	Ala	Gly	Gly	Gly	Ala
				565					570					575	
Leu	Trp	Gly	His	Asn	Val	Leu	Leu	Asp	Ser	Asn	Ser	Gly	Asn	Ile	Gln
			580					585						590	
Phe	Ile	Gly	Asn	Ile	Gly	Gly	Ser	Thr	Phe	Trp	Ile	Gly	Glu	Tyr	Val
		595					600					605			
Gly	Gly	Gly	Ala	Ile	Leu	Ser	Thr	Asp	Arg	Val	Thr	Ile	Ser	Asn	Asn
	610						615					620			
Ser	Gly	Asp	Val	Val	Phe	Lys	Gly	Asn	Lys	Gly	Gln	Cys	Leu	Ala	Gln
625					630					635					640
Lys	Tyr	Val	Ala	Pro	Gln	Glu	Thr	Ala	Pro	Val	Glu	Ser	Asp	Ala	Ser
			645						650					655	
Ser	Thr	Asn	Lys	Asp	Glu	Lys	Ser	Leu	Asn	Ala	Cys	Ser	His	Gly	Asp
		660						665						670	
His	Tyr	Pro	Pro	Lys	Thr	Val	Glu	Glu	Glu	Val	Pro	Pro	Ser	Leu	Leu
		675					680					685			
Glu	Glu	His	Pro	Val	Val	Ser	Ser	Thr	Asp	Ile	Arg	Gly	Gly	Gly	Ala
	690					695						700			
Ile	Leu	Ala	Gln	His	Ile	Phe	Ile	Thr	Asp	Asn	Thr	Gly	Asn	Leu	Arg
705					710					715					720
Phe	Ser	Gly	Asn	Leu	Gly	Gly	Gly	Glu	Glu	Ser	Ser	Thr	Val	Gly	Asp
			725						730					735	
Leu	Ala	Ile	Val	Gly	Gly	Gly	Ala	Leu	Leu	Ser	Thr	Asn	Glu	Val	Asn
			740					745					750		
Val	Cys	Ser	Asn	Gln	Asn	Val	Val	Phe	Ser	Asp	Asn	Val	Thr	Ser	Asn
		755					760					765			
Gly	Cys	Asp	Ser	Gly	Gly	Ala	Ile	Leu	Ala	Lys	Lys	Val	Asp	Ile	Ser
	770					775						780			
Ala	Asn	His	Ser	Val	Glu	Phe	Val	Ser	Asn	Gly	Ser	Gly	Lys	Phe	Gly
785					790					795					800
Gly	Ala	Val	Cys	Ala	Leu	Asn	Glu	Ser	Val	Asn	Ile	Thr	Asp	Asn	Gly
			805						810					815	
Ser	Ala	Val	Ser	Phe	Ser	Lys	Asn	Arg	Thr	Arg	Leu	Gly	Gly	Ala	Gly
			820					825						830	
Val	Ala	Ala	Pro	Gln	Gly	Ser	Val	Thr	Ile	Cys	Gly	Asn	Gln	Gly	Asn
		835						840					845		
Ile	Ala	Phe	Lys	Glu	Asn	Phe	Val	Phe	Gly	Ser	Glu	Asn	Gln	Arg	Ser
	850					855					860				
Gly	Gly	Gly	Ala	Ile	Ile	Ala	Asn	Ser	Ser	Val	Asn	Ile	Gln	Asp	Asn
865					870					875					880
Ala	Gly	Asp	Ile	Leu	Phe	Val	Ser	Asn	Ser	Thr	Gly	Ser	Tyr	Gly	Gly
			885						890						895



Ala	Ile	Phe	Val	Gly	Ser	Leu	Val	Ala	Ser	Glu	Gly	Ser	Asn	Pro	Arg
			900					905					910		
Thr	Leu	Thr	Ile	Thr	Gly	Asn	Ser	Gly	Asp	Ile	Leu	Phe	Ala	Lys	Asn
			915					920					925		
Ser	Thr	Gln	Thr	Ala	Ala	Ser	Leu	Ser	Glu	Lys	Asp	Ser	Phe	Gly	Gly
			930					935					940		
Gly	Ala	Ile	Tyr	Thr	Gln	Asn	Leu	Lys	Ile	Val	Lys	Asn	Ala	Gly	Asn
			945					950					955		960
Val	Ser	Phe	Tyr	Gly	Asn	Arg	Ala	Pro	Ser	Gly	Ala	Gly	Val	Gln	Ile
				965						970				975	
Ala	Asp	Gly	Gly	Thr	Val	Cys	Leu	Glu	Ala	Phe	Gly	Gly	Asp	Ile	Leu
			980					985						990	
Phe	Glu	Gly	Asn	Ile	Asn	Phe	Asp	Gly	Ser	Phe	Asn	Ala	Ile	His	Leu
			995					1000					1005		
Cys	Gly	Asn	Asp	Ser	Lys	Ile	Val	Glu	Leu	Ser	Ala	Val	Gln	Asp	Lys
			1010					1015					1020		
Asn	Ile	Ile	Phe	Gln	Asp	Ala	Ile	Thr	Tyr	Glu	Glu	Asn	Thr	Ile	Arg
			1025					1030					1035		1040
Gly	Leu	Pro	Asp	Lys	Asp	Val	Ser	Pro	Leu	Ser	Ala	Pro	Ser	Leu	Ile
				1045						1050				1055	
Phe	Asn	Ser	Lys	Pro	Gln	Asp	Asp	Ser	Ala	Gln	His	His	Glu	Gly	Thr
				1060					1065					1070	
Ile	Arg	Phe	Ser	Arg	Gly	Val	Ser	Lys	Ile	Pro	Gln	Ile	Ala	Ala	Ile
				1075					1080					1085	
Gln	Glu	Gly	Thr	Leu	Ala	Leu	Ser	Gln	Asn	Ala	Glu	Leu	Trp	Leu	Ala
				1090				1095					1100		
Gly	Leu	Lys	Gln	Glu	Thr	Gly	Ser	Ser	Ile	Val	Leu	Ser	Ala	Gly	Ser
				1105				1110					1115		1120
Ile	Leu	Arg	Ile	Phe	Asp	Ser	Gln	Val	Asp	Ser	Ser	Ala	Pro	Leu	Pro
				1125					1130					1135	
Thr	Glu	Asn	Lys	Glu	Glu	Thr	Leu	Val	Ser	Ala	Gly	Val	Gln	Ile	Asn
				1140					1145					1150	
Met	Ser	Ser	Pro	Thr	Pro	Asn	Lys	Asp	Lys	Ala	Val	Asp	Thr	Pro	Val
				1155				1160					1165		
Leu	Ala	Asp	Ile	Ile	Ser	Ile	Thr	Val	Asp	Leu	Ser	Ser	Phe	Val	Pro
				1170				1175					1180		
Glu	Gln	Asp	Gly	Thr	Leu	Pro	Leu	Pro	Pro	Glu	Ile	Ile	Ile	Pro	Lys
				1185				1190					1195		1200
Gly	Thr	Lys	Leu	His	Ser	Asn	Ala	Ile	Asp	Leu	Lys	Ile	Ile	Asp	Pro
				1205					1210					1215	
Thr	Asn	Val	Gly	Tyr	Glu	Asn	His	Ala	Leu	Leu	Ser	Ser	His	Lys	Asp
				1220					1225					1230	
Ile	Pro	Leu	Ile	Ser	Leu	Lys	Thr	Ala	Glu	Gly	Met	Thr	Gly	Thr	Pro
				1235					1240					1245	
Thr	Ala	Asp	Ala	Ser	Leu	Ser	Asn	Ile	Lys	Ile	Asp	Val	Ser	Leu	Pro
				1250				1255					1260		
Ser	Ile	Thr	Pro	Ala	Thr	Tyr	Gly	His	Thr	Gly	Val	Trp	Ser	Glu	Ser
				1265				1270					1275		1280
Lys	Met	Glu	Asp	Gly	Arg	Leu	Val	Val	Gly	Trp	Gln	Pro	Thr	Gly	Tyr
				1285					1290					1295	
Lys	Leu	Asn	Pro	Glu	Lys	Gln	Gly	Ala	Leu	Val	Leu	Asn	Asn	Leu	Trp
				1300					1305					1310	
Ser	His	Tyr	Thr	Asp	Leu	Arg	Ala	Leu	Lys	Gln	Glu	Ile	Phe	Ala	His
				1315					1320					1325	
His	Thr	Ile	Ala	Gln	Arg	Met	Glu	Leu	Asp	Phe	Ser	Thr	Asn	Val	Trp
				1330					1335					1340	
Gly	Ser	Gly	Leu	Gly	Val	Val	Glu	Asp	Cys	Gln	Asn	Ile	Gly	Glu	Phe
				1345				1350					1355		1360
Asp	Gly	Phe	Lys	His	His	Leu	Thr	Gly	Tyr	Ala	Leu	Gly	Leu	Asp	Thr
				1365					1370					1375	

Gln Leu Val Glu Asp Phe Leu Ile Gly Gly Cys Phe Ser Gln Phe Phe  
 1380 1385 1390  
 Gly Lys Thr Glu Ser Gln Ser Tyr Lys Ala Lys Asn Asp Val Lys Ser  
 1395 1400 1405  
 Tyr Met Gly Ala Ala Tyr Ala Gly Ile Leu Ala Gly Pro Trp Leu Ile  
 1410 1415 1420  
 Lys Gly Ala Phe Val Tyr Gly Asn Ile Asn Asn Asp Leu Thr Thr Asp  
 1425 1430 1435 1440  
 Tyr Gly Thr Leu Gly Ile Ser Thr Gly Ser Trp Ile Gly Lys Gly Phe  
 1445 1450 1455  
 Ile Ala Gly Thr Ser Ile Asp Tyr Arg Tyr Ile Val Asn Pro Arg Arg  
 1460 1465 1470  
 Phe Ile Ser Ala Ile Val Ser Thr Val Val Pro Phe Val Glu Ala Glu  
 1475 1480 1485  
 Tyr Val Arg Ile Asp Leu Pro Glu Ile Ser Glu Gln Gly Lys Glu Val  
 1490 1495 1500  
 Arg Thr Phe Gln Lys Thr Arg Phe Glu Asn Val Ala Ile Pro Phe Gly  
 1505 1510 1515 1520  
 Phe Ala Leu Glu His Ala Tyr Ser Arg Gly Ser Arg Ala Glu Val Asn  
 1525 1530 1535  
 Ser Val Gln Leu Ala Tyr Val Phe Asp Val Tyr Arg Lys Gly Pro Val  
 1540 1545 1550  
 Ser Leu Ile Thr Leu Lys Asp Ala Ala Tyr Ser Trp Lys Ser Tyr Gly  
 1555 1560 1565  
 Val Asp Ile Pro Cys Lys Ala Trp Lys Ala Arg Leu Ser Asn Asn Thr  
 1570 1575 1580  
 Glu Trp Asn Ser Tyr Leu Ser Thr Tyr Leu Ala Phe Asn Tyr Glu Trp  
 1585 1590 1595 1600  
 Arg Glu Asp Leu Ile Ala Tyr Asp Phe Asn Gly Gly Ile Arg Ile Ile  
 1605 1610 1615  
 Phe

<210> 966  
 <211> 504  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 966  
 Gln Ser Ile Leu Glu Ser Ile Ile Lys Tyr Phe Tyr Leu Ile His Asn  
 1 5 10 15  
 Ser Lys Met His Met Ser Asn Pro Ile Ser Leu Phe Ser Pro Ala Glu  
 20 25 30  
 Leu Ile Ala Lys Tyr Asn Leu Ile Pro Lys Thr Ser Pro Ile Tyr Pro  
 35 40 45  
 Arg Arg Thr Glu Leu Ile Ile Leu Glu Glu Asn Ala Cys Gln Thr Arg  
 50 55 60  
 Leu Thr Asn Val Ala Gln Val Leu His Pro Ser Ser Leu Phe Ser Met  
 65 70 75 80  
 Ser Lys Lys Ile Leu Asn Pro Cys Gly Cys Ser Gly Gly Pro Leu Cys  
 85 90 95  
 Trp Val Ile Leu Asn Ile Leu Ala Phe Ile Ile Thr Ser Val Leu Phe  
 100 105 110  
 Ile Ile Leu Leu Pro Val Asn Leu Ile Val Ala Gly Leu Arg Leu Phe  
 115 120 125  
 Met Pro Leu Pro Pro Lys Lys Ile Val Glu Asp Leu Ser Glu Pro Thr  
 130 135 140  
 Thr Glu Glu Thr Asn Glu Val Ile Gln Pro Phe Ile Phe Ala Leu Gln  
 145 150 155 160  
 Ala Leu Leu Phe Glu Asp Asn Lys Leu Arg Ser Phe Lys Ile Val Glu  
 165 170 175

Gln Ser Val Gly Lys Ala Pro Leu Pro Asn Pro Phe Leu Asn Arg Leu  
 180 185 190  
 Val Ala Ile Ser Pro Gln Glu Ser Gln Glu Ala Met Arg Lys Ile Pro  
 195 200 205  
 Asp Leu Cys Ser Gln Leu Lys Lys Val Leu Lys Ser Leu Gly Val Leu  
 210 215 220  
 Thr Pro Glu Trp Lys His Met Leu Lys Tyr Phe Glu Gly Leu Lys Asn  
 225 230 235 240  
 Glu His Asp Ser Asn Pro Asp Lys Lys Thr Phe Pro Ile Leu Ile Lys  
 245 250 255  
 Leu Leu Ile Glu Ala Leu Thr Gly Lys Ser Ser Leu Pro Lys Thr Pro  
 260 265 270  
 Ser Thr Lys Glu Lys Met Gln Ala Ala Leu Phe Ile Ala Ser Ser Cys  
 275 280 285  
 Lys Thr Cys Lys Pro Thr Trp Gly Glu Val Ile Thr Arg Ser Leu Asn  
 290 295 300  
 Arg Leu Tyr Ser Ile Ala Asn Glu Gly Asp Asn Gln Leu Leu Ile Trp  
 305 310 315 320  
 Val Gln Glu Phe Lys Glu Arg Glu Leu Met Ser Ile Gln Asp Gly Asp  
 325 330 335  
 Asp Ala Glu Glu Tyr Arg Phe Ala Ala Gln Gln His Gly Glu Arg Tyr  
 340 345 350  
 Thr Glu Ala Ile Glu Gln Val Leu Arg Asn Glu Ser Ala Ala Lys Leu  
 355 360 365  
 Gln Trp His Val Ile Asn Thr Met Lys Phe Phe His Gly Lys Asn Leu  
 370 375 380  
 Gly Leu Val Thr Glu His Leu Gln Asp Thr Leu Gly Ala Leu Thr Leu  
 385 390 395 400  
 Arg Gln Thr Thr Val Asp Thr His Gln Gly Arg Glu Asp Ala Asp Leu  
 405 410 415  
 Ser Ala Ala Leu Phe Leu Asn Lys Tyr Leu Asn Ser Gly Asn Gln Leu  
 420 425 430  
 Val Asn Ser Val Phe Lys Ser Met Gln Lys Ala Asp Pro Glu Thr Lys  
 435 440 445  
 Ala Leu Ile Arg Glu Phe Ala Leu Asp Ile Leu Tyr Ala Ser Leu Arg  
 450 455 460  
 Leu Pro Gln Thr Ser Ala His Thr Glu Val Phe Ser Thr Leu Leu Met  
 465 470 475 480  
 Asp Pro Glu Thr Tyr Glu Pro Asn Lys Ala Cys Ile Ala Tyr Leu Leu  
 485 490 495  
 Tyr Val Leu Lys Ile Ile Glu Leu  
 500

<210> 967  
 <211> 615  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 967  
 Lys Gly Phe Ser Phe Ser Lys Val Gly Leu Asn Met Ile Pro Ser Gly  
 1 5 10 15  
 Leu Val Tyr Leu Leu Tyr Pro Leu Gly Phe Leu Ala Ser Leu Phe Phe  
 20 25 30  
 Gly Ser Ala Phe Ser Ile Gln Trp Trp Leu Ser Lys Lys Arg Lys Glu  
 35 40 45  
 Val Tyr Ala Pro Arg Ser Phe Trp Ile Leu Ser Ser Ile Gly Ala Thr  
 50 55 60  
 Leu Met Ile Val His Gly Thr Ile Gln Ser Gln Phe Pro Val Thr Val  
 65 70 75 80  
 Leu His Val Ile Asn Leu Ile Ile Tyr Leu Arg Asn Leu Asn Ile Thr  
 85 90 95

Ser	Ser	Arg	Pro	Ile	Ser	Phe	Arg	Ala	Thr	Leu	Val	Leu	Met	Ala	Leu	100	105	110
Ser	Val	Val	Phe	Val	Thr	Leu	Pro	Phe	Leu	Tyr	Val	Asn	Met	Glu	Trp	115	120	125
Met	Ala	Ser	Pro	Asn	Ile	Phe	His	Leu	Pro	Leu	Pro	Pro	Ala	Gln	Leu	130	135	140
Ser	Trp	His	Leu	Ile	Gly	Cys	Leu	Gly	Leu	Ala	Ile	Phe	Ser	Gly	Arg	145	150	155
Phe	Leu	Ile	Gln	Trp	Phe	Tyr	Ile	Glu	Ser	Asn	Asn	Thr	Lys	Asp	Phe	165	170	175
Pro	Leu	Leu	Phe	Trp	Lys	Ile	Gly	Leu	Leu	Gly	Gly	Leu	Leu	Ala	Leu	180	185	190
Val	Tyr	Phe	Ile	Arg	Ile	Gly	Asp	Pro	Ile	Asn	Ile	Leu	Cys	Tyr	Gly	195	200	205
Cys	Gly	Leu	Phe	Pro	Ser	Ile	Ala	Asn	Leu	Arg	Leu	Phe	Tyr	Lys	Glu	210	215	220
Gln	Arg	Ser	Thr	Pro	Tyr	Leu	Asp	Thr	His	Cys	Phe	Leu	Ser	Ala	Gly	225	230	235
Glu	Ala	Ser	Gly	Asp	Ile	Leu	Gly	Gly	Lys	Leu	Ile	Gln	Ser	Ile	Lys	245	250	255
Ser	Leu	Tyr	Pro	Asn	Ile	Arg	Phe	Trp	Gly	Val	Gly	Gly	Pro	Ala	Met	260	265	270
Arg	Gln	Glu	Gly	Leu	Gln	Pro	Ile	Leu	Asn	Met	Glu	Glu	Phe	Gln	Val	275	280	285
Ser	Gly	Phe	Ala	Glu	Val	Leu	Gly	Ser	Leu	Phe	Arg	Leu	Tyr	Arg	Asn	290	295	300
Tyr	Arg	Lys	Ile	Leu	Lys	Thr	Ile	Leu	Lys	His	Lys	Pro	Ala	Thr	Leu	305	310	315
Ile	Phe	Ile	Asp	Phe	Pro	Asp	Phe	His	Leu	Leu	Leu	Ile	Lys	Lys	Leu	325	330	335
Arg	Lys	His	Gly	Tyr	Arg	Gly	Lys	Ile	Ile	His	Tyr	Val	Cys	Pro	Ser	340	345	350
Ile	Trp	Ala	Trp	Arg	Pro	Lys	Arg	Lys	Arg	Ile	Leu	Glu	Gln	His	Leu	355	360	365
Asp	Met	Leu	Leu	Leu	Ile	Leu	Pro	Phe	Glu	Glu	Gly	Leu	Phe	Lys	Asn	370	375	380
Thr	Ser	Leu	Glu	Thr	Val	Tyr	Leu	Gly	His	Pro	Leu	Val	Glu	Glu	Ile	385	390	395
Ser	Asp	Tyr	Lys	Glu	Gln	Ala	Ser	Trp	Lys	Glu	Lys	Phe	Leu	Asn	Ser	405	410	415
Asp	Arg	Pro	Ile	Val	Ala	Ala	Phe	Pro	Gly	Ser	Arg	Arg	Gly	Asp	Ile	420	425	430
Ser	Arg	Asn	Leu	Arg	Ile	Gln	Val	Gln	Ala	Phe	Leu	Asn	Ser	Ser	Leu	435	440	445
Ser	Gln	Thr	His	Gln	Phe	Val	Val	Ser	Ser	Ser	Ser	Ala	Lys	Tyr	Asp	450	455	460
Glu	Ile	Ile	Glu	Asp	Thr	Leu	Lys	Ala	Glu	Gly	Cys	Gln	His	Ser	Gln	465	470	475
Ile	Ile	Pro	Met	Asn	Phe	Arg	Tyr	Glu	Leu	Met	Arg	Ser	Cys	Asp	Cys	485	490	495
Ala	Leu	Ala	Lys	Cys	Gly	Thr	Ile	Val	Leu	Glu	Thr	Ala	Leu	Asn	Gln	500	505	510
Thr	Pro	Thr	Ile	Val	Met	Cys	Arg	Leu	Arg	Pro	Phe	Asp	Thr	Phe	Leu	515	520	525
Ala	Lys	Tyr	Ile	Phe	Lys	Ile	Leu	Leu	Pro	Ala	Tyr	Ser	Leu	Pro	Asn	530	535	540
Ile	Ile	Met	Asn	Ser	Val	Ile	Phe	Pro	Glu	Phe	Ile	Gly	Gly	Lys	Lys	545	550	555
Asp	Phe	His	Pro	Glu	Glu	Ile	Ala	Thr	Ala	Leu	Asp	Leu	Leu	Asn	Gln	565	570	575

His Gly Ser Lys Glu Lys Gln Lys Glu Asp Cys Arg Lys Leu Cys Lys  
 580 585 590  
 Val Met Thr Thr Gly Gln Ile Ala Ser Glu Glu Phe Leu Lys Arg Ile  
 595 600 605  
 Phe Asp Thr Leu Pro Ala Val  
 610 615

<210> 968  
 <211> 436  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 968  
 Leu Leu Ile Thr Ile Ile Met Val Cys Glu Asn Asn Ile Leu Ser Gly  
 1 5 10 15  
 Arg Gly Leu Glu Leu Leu Lys Lys Lys Ser Asn Ile Thr Leu Thr Pro  
 20 25 30  
 Thr Ile Tyr Ser Val Ser Asn His Asn Ile Lys Leu Lys Asp Phe Ser  
 35 40 45  
 Pro His Ala Leu Ser Val Ile Lys Thr Leu Arg Lys Ala Gly Tyr Ile  
 50 55 60  
 Ala Tyr Ile Val Gly Gly Cys Ile Arg Asp Leu Leu Leu Asn Thr Thr  
 65 70 75 80  
 Pro Lys Asp Phe Asp Ile Ser Thr Ser Ala Lys Pro Glu Glu Ile Lys  
 85 90 95  
 Ala Ile Phe Lys Asn Cys Ile Leu Val Gly Lys Arg Phe Arg Leu Ala  
 100 105 110  
 His Ile Arg Phe Ser Lys Gln Ile Ile Glu Val Ser Thr Phe Arg Ser  
 115 120 125  
 Gly Ser Thr Asp Glu Asp Val Leu Ile Thr Lys Asp Asn Leu Trp Gly  
 130 135 140  
 Thr Pro Glu Glu Asp Val Leu Arg Arg Asp Phe Thr Ile Asn Gly Leu  
 145 150 155 160  
 Phe Tyr Asp Pro Glu His Glu Glu Ile Ile Asp Tyr Thr Gly Gly Val  
 165 170 175  
 Asn Asp Leu Arg Asn Arg Tyr Leu Arg Thr Ile Gly Asp Pro Phe Thr  
 180 185 190  
 Arg Phe Lys Gln Asp Pro Val Arg Met Leu Arg Leu Leu Lys Ile Leu  
 195 200 205  
 Ser Arg Ser Pro Phe Thr Val Glu Thr Gln Thr Gln Glu Ala Leu Ile  
 210 215 220  
 Ala Cys Arg Gln Glu Leu Ile Lys Ser Ser Gln Ala Arg Val Phe Glu  
 225 230 235 240  
 Glu Leu Ile Lys Met Leu Asn Ser Gly Ala Ala Lys Asn Phe Phe Gln  
 245 250 255  
 Leu Leu Ile Glu Asn His Leu Leu Glu Ile Leu Phe Pro Tyr Met Asp  
 260 265 270  
 Lys Ala Phe Arg Leu Asn Arg Ala Leu Glu Glu Gln Thr Ala Thr Tyr  
 275 280 285  
 Leu Lys Ala Leu Asp Asp Lys Ile Leu Lys Lys Glu Ala Glu Tyr Asp  
 290 295 300  
 Arg His Gln Leu Met Ala Ile Phe Leu Phe Pro Leu Val Asn Phe Asn  
 305 310 315 320  
 Val Arg Tyr Lys His Gln Lys His Pro Tyr Leu Ser Leu Thr Ser Val  
 325 330 335  
 Phe Asp Tyr Ile Lys Asn Phe Leu Glu Gln Phe Phe Ala Asp Ser Phe  
 340 345 350  
 Thr Ser Cys Ser Lys Lys Asn Phe Ile Leu Thr Ala Leu Ile Leu Gln  
 355 360 365  
 Met Gln Tyr Arg Leu Thr Pro Leu Ile Pro Thr Lys Lys Ala Leu Phe  
 370 375 380

Phe Asn Lys Lys Leu Leu His His Thr Arg Phe Leu Glu Ala Leu Ser  
 385 390 395 400  
 Leu Leu Glu Ile Arg Ser Ile Val Tyr Pro Lys Leu Asp Lys Val Tyr  
 405 410 415  
 Val Ala Trp Ile Arg His His Gln Thr Leu Lys Cys Lys Lys Asp Ser  
 420 425 430  
 His Ser Gln Lys  
 435

<210> 969  
 <211> 485  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 969  
 Phe Thr Ala Tyr Lys Phe Ala Phe Ile Cys Ala Cys Arg Ser Glu Lys  
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 Ile Arg Arg Ile Gly Ile Asp Phe Arg Arg Asn Met Gln Gln Ser Val  
 20 25 30  
 Arg Lys Leu Phe Gly Thr Asp Gly Val Arg Gly Arg Ala Asn Phe Glu  
 35 40 45  
 Pro Met Thr Val Glu Thr Thr Val Leu Leu Gly Lys Ala Val Ala Arg  
 50 55 60  
 Val Leu Arg Glu Gly Arg Ser Gly Lys His Arg Val Val Val Gly Lys  
 65 70 75 80  
 Asp Thr Arg Leu Ser Gly Tyr Met Phe Glu Asn Ala Leu Ile Ala Gly  
 85 90 95  
 Leu Asn Ser Met Gly Ile Glu Thr Leu Val Leu Gly Pro Ile Pro Thr  
 100 105 110  
 Pro Gly Val Ala Phe Ile Thr Arg Ala Tyr Arg Ala Asp Ala Gly Ile  
 115 120 125  
 Met Ile Ser Ala Ser His Asn Pro Tyr Arg Asp Asn Gly Ile Lys Ile  
 130 135 140  
 Phe Ser Leu Glu Gly Phe Lys Ile Ser Asp Val Leu Glu Gln Arg Ile  
 145 150 155 160  
 Glu Thr Met Val Ser Glu Ala Asp Phe Gly Pro Leu Pro Glu Asp His  
 165 170 175  
 Ala Val Gly Lys Asn Lys Arg Val Ile Asp Ala Met Gly Arg Tyr Val  
 180 185 190  
 Glu Phe Val Lys Ala Thr Phe Pro Lys Gly Arg Thr Leu Lys Gly Leu  
 195 200 205  
 Lys Ile Val Leu Asp Cys Ala His Gly Ala Ser Tyr Lys Val Ala Pro  
 210 215 220  
 Ser Val Phe Glu Glu Leu Asp Ala Glu Val Ile Cys Tyr Gly Cys Glu  
 225 230 235 240  
 Pro Thr Gly Ile Asn Ile Asn Glu His Cys Gly Ala Leu Phe Pro Gln  
 245 250 255  
 Val Ile Gln Lys Ala Val Ile Glu His Gln Ala His Leu Gly Ile Ala  
 260 265 270  
 Leu Asp Gly Asp Gly Asp Arg Ile Ile Met Val Asp Glu Lys Gly His  
 275 280 285  
 Ile Val Asp Gly Asp Met Ile Leu Ser Ile Cys Ala Gly Asp Leu Lys  
 290 295 300  
 Lys Arg Ser Ala Leu Pro His Asn Arg Val Val Ala Thr Ile Met Thr  
 305 310 315 320  
 Asn Phe Gly Val Leu Lys Tyr Leu Glu Gly Leu Gly Leu Gln Val Phe  
 325 330 335  
 Thr Ser Pro Val Gly Asp Arg His Val Leu His Ala Met Leu Glu His  
 340 345 350  
 Glu Val Thr Leu Gly Gly Glu Gln Ser Gly His Met Ile Phe Leu Asp  
 355 360 365

Tyr Asn Thr Thr Gly Asp Gly Ile Val Ser Ala Leu Gln Val Leu Arg  
 370 375 380  
 Ile Met Ile Glu Ser Glu Ser Met Leu Ser Asp Leu Thr Ala Pro Ile  
 385 390 395 400  
 Val Lys Ser Pro Gln Thr Leu Ile Asn Val Ala Val Arg Glu Lys Ile  
 405 410 415  
 Pro Leu Glu Thr Ile Pro Leu Ile Glu Arg Thr Leu Arg Asp Val Gln  
 420 425 430  
 Asp Ala Leu Gly Pro Ser Gly Arg Ile Leu Leu Arg Tyr Ser Gly Thr  
 435 440 445  
 Glu Asn Ile Cys Arg Val Met Val Glu Gly His Lys Lys His Gln Val  
 450 455 460  
 Asp Cys Leu Ala Lys Ala Leu Ala Asp Val Ile Asp Ala Glu Leu Gly  
 465 470 475 480  
 Thr Gly Ser Arg Glu  
 485

<210> 970

<211> 611

<212> PRT

<213> Chlamydia pneumoniae

<400> 970

Asp Arg Met Cys Gly Ile Phe Gly Tyr Leu Gly Asn Gln Asp Gly Val  
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 Ser Ile Val Leu Glu Gly Leu Ala Lys Leu Glu Tyr Arg Gly Tyr Asp  
 20 25 30  
 Ser Ala Gly Leu Ala Ala Val Val Glu Gln Glu Leu Phe Ile Arg Lys  
 35 40 45  
 Thr Val Gly Arg Val Gln Glu Leu Ser Asn Leu Phe Gln Glu Arg Glu  
 50 55 60  
 Ile Pro Thr Ala Ser Val Ile Gly His Thr Arg Trp Ala Thr His Gly  
 65 70 75 80  
 Val Pro Thr Glu Ile Asn Ala His Pro His Val Asp Glu Gly Arg Ser  
 85 90 95  
 Cys Ala Val Val His Asn Gly Ile Ile Glu Asn Phe Lys Glu Leu Arg  
 100 105 110  
 Arg Glu Leu Thr Ala Gln Gly Ile Ser Phe Ala Ser Asp Thr Asp Ser  
 115 120 125  
 Glu Ile Ile Val Gln Leu Phe Ser Leu Tyr Tyr Gln Glu Ser Gln Asp  
 130 135 140  
 Leu Val Phe Ser Phe Cys Gln Thr Leu Ala Gln Leu Arg Gly Ser Val  
 145 150 155 160  
 Ala Cys Ala Leu Ile His Lys Asp His Pro His Thr Ile Leu Cys Ala  
 165 170 175  
 Ser Gln Glu Ser Pro Leu Ile Leu Gly Leu Gly Lys Glu Glu Thr Phe  
 180 185 190  
 Ile Ala Ser Asp Ser Arg Ala Phe Phe Lys Tyr Thr Arg His Ser Gln  
 195 200 205  
 Ala Leu Ala Ser Gly Glu Phe Ala Ile Val Ser Gln Gly Lys Glu Pro  
 210 215 220  
 Glu Val Tyr Asn Leu Glu Leu Lys Lys Ile His Lys Asp Val Arg Gln  
 225 230 235 240  
 Ile Thr Cys Ser Glu Asp Ala Ser Asp Lys Ser Gly Tyr Gly Tyr Tyr  
 245 250 255  
 Met Leu Lys Glu Ile Tyr Asp Gln Pro Glu Val Leu Glu Gly Leu Ile  
 260 265 270  
 Gln Lys His Met Asp Glu Glu Gly His Ile Leu Ser Glu Phe Leu Ser  
 275 280 285  
 Asp Val Pro Ile Lys Ser Phe Lys Glu Ile Thr Ile Val Ala Cys Gly  
 290 295 300

Ser Ser Tyr His Ala Gly Tyr Leu Ala Lys Tyr Ile Ile Glu Ser Leu  
 305 310 315 320  
 Val Ser Thr Pro Val His Ile Glu Val Ala Ser Glu Phe Arg Tyr Arg  
 325 330 335  
 Arg Pro Tyr Ile Gly Lys Asp Thr Leu Gly Ile Leu Ile Ser Gln Ser  
 340 345 350  
 Gly Glu Thr Ala Asp Thr Leu Ala Ala Leu Lys Glu Leu Arg Arg Arg  
 355 360 365  
 Asn Ile Ala Tyr Leu Leu Gly Ile Cys Asn Val Pro Glu Ser Ala Ile  
 370 375 380  
 Ala Leu Gly Val Asp His Cys Leu Phe Leu Glu Ala Gly Val Glu Ile  
 385 390 395 400  
 Gly Val Ala Thr Thr Lys Ala Phe Thr Ser Gln Leu Leu Leu Val  
 405 410 415  
 Phe Leu Gly Leu Lys Leu Ala Asn Val His Gly Ala Leu Thr His Ala  
 420 425 430  
 Glu Gln Cys Ser Phe Gly Gln Gly Leu Gln Ser Leu Pro Asp Leu Cys  
 435 440 445  
 Gln Lys Leu Leu Ala Asn Glu Ser Leu His Ser Trp Ala Gln Pro Tyr  
 450 455 460  
 Ser Tyr Glu Asp Lys Phe Leu Phe Leu Gly Arg Arg Leu Met Tyr Pro  
 465 470 475 480  
 Val Val Met Glu Ala Ala Leu Lys Leu Lys Glu Ile Ala Tyr Ile Glu  
 485 490 495  
 Ala Asn Ala Tyr Pro Gly Gly Glu Met Lys His Gly Pro Ile Ala Leu  
 500 505 510  
 Ile Ser Lys Gly Thr Pro Val Ile Ala Phe Cys Gly Asp Asp Ile Val  
 515 520 525  
 Tyr Glu Lys Met Ile Gly Asn Met Met Glu Val Lys Ala Arg His Ala  
 530 535 540  
 His Val Ile Ala Ile Ala Pro Glu Ser Arg Glu Asp Ile Ala Ala Val  
 545 550 555 560  
 Ser Asp Gln Gln Ile Phe Val Pro Asp Cys His Phe Leu Ala Ala Pro  
 565 570 575  
 Val Leu Tyr Thr Ile Val Gly Gln Val Met Ala Tyr Ala Met Ala Leu  
 580 585 590  
 Ala Lys Gly Met Glu Ile Asp Cys Pro Arg Asn Leu Ala Lys Ser Val  
 595 600 605  
 Thr Val Glu  
 610

<210> 971  
 <211> 399  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 971  
 Val Tyr Val Met Ser Asn Lys Val Leu Gly Gly Ser Leu Leu Ile Ala  
 1 5 10 15  
 Gly Ser Ala Ile Gly Ala Gly Val Leu Ala Val Pro Val Leu Thr Ala  
 20 25 30  
 Lys Gly Gly Phe Phe Pro Ala Thr Phe Leu Tyr Ile Val Ser Trp Leu  
 35 40 45  
 Phe Ser Met Ala Ser Gly Leu Cys Leu Leu Glu Val Met Thr Trp Met  
 50 55 60  
 Lys Glu Ser Lys Asn Pro Val Asn Met Leu Ser Met Ala Glu Ser Ile  
 65 70 75 80  
 Leu Gly His Val Gly Lys Ile Ser Ile Cys Leu Val Tyr Leu Phe Leu  
 85 90 95  
 Phe Tyr Ser Leu Leu Ile Ala Tyr Phe Cys Glu Gly Gly Asn Ile Leu  
 100 105 110



Cys	Arg	Val	Phe	Asn	Cys	Gln	Asn	Leu	Gly	Ile	Ser	Trp	Ile	Arg	His
		115					120					125			
Leu	Gly	Pro	Leu	Gly	Phe	Ala	Ile	Leu	Met	Gly	Pro	Ile	Ile	Met	Ala
	130					135					140				
Gly	Thr	Lys	Val	Ile	Asp	Tyr	Cys	Asn	Arg	Phe	Phe	Met	Phe	Gly	Leu
145					150					155					160
Thr	Val	Ala	Phe	Gly	Ile	Phe	Cys	Ala	Leu	Gly	Phe	Leu	Lys	Ile	Gln
			165						170					175	
Pro	Ser	Phe	Leu	Val	Arg	Ser	Ser	Trp	Leu	Thr	Thr	Ile	Asn	Ala	Phe
		180						185					190		
Pro	Val	Phe	Phe	Leu	Ala	Phe	Gly	Phe	Gln	Ser	Ile	Ile	Pro	Thr	Leu
	195						200					205			
Tyr	Tyr	Tyr	Met	Asp	Lys	Lys	Val	Gly	Asp	Val	Lys	Lys	Ala	Ile	Leu
	210					215					220				
Ile	Gly	Thr	Leu	Ile	Pro	Leu	Val	Leu	Tyr	Val	Leu	Trp	Glu	Val	Val
225					230					235					240
Val	Leu	Gly	Ala	Val	Ser	Leu	Pro	Ile	Leu	Ser	Gln	Ala	Lys	Ile	Gly
			245						250					255	
Gly	Tyr	Thr	Ala	Val	Glu	Ala	Leu	Lys	Gln	Ala	His	Arg	Ser	Trp	Ala
			260					265					270		
Phe	Tyr	Ile	Ala	Gly	Glu	Leu	Phe	Gly	Phe	Phe	Ala	Leu	Val	Ser	Ser
		275					280				285				
Phe	Val	Gly	Val	Ala	Leu	Gly	Val	Met	Asp	Phe	Leu	Ala	Asp	Gly	Leu
	290					295					300				
Lys	Trp	Asn	Lys	Lys	Ser	His	Pro	Phe	Ser	Ile	Phe	Phe	Leu	Thr	Phe
305					310					315					320
Ile	Ile	Pro	Leu	Ala	Trp	Ala	Val	Cys	Tyr	Pro	Glu	Ile	Val	Leu	Thr
			325					330						335	
Cys	Leu	Lys	Tyr	Ala	Gly	Gly	Phe	Gly	Ala	Ala	Val	Ile	Ile	Gly	Val
		340						345					350		
Phe	Pro	Thr	Leu	Ile	Val	Trp	Lys	Gly	Arg	Tyr	Gly	Lys	Gln	His	His
		355					360					365			
Arg	Glu	Lys	Gln	Leu	Val	Pro	Gly	Gly	Lys	Phe	Ala	Leu	Phe	Leu	Met
	370					375					380				
Phe	Leu	Leu	Ile	Val	Ile	Asn	Val	Val	Ser	Ile	Tyr	His	Glu	Leu	
385					390					395					

<210> 972  
 <211> 241  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 972

Glu	Gly	Ser	Met	Gly	Leu	Tyr	Asp	Arg	Asp	Tyr	Ile	Gln	Asp	Ser	Arg
1				5					10					15	
Val	Gln	Gly	Thr	Phe	Ala	Ser	Arg	Val	Tyr	Gly	Trp	Met	Thr	Ala	Gly
			20					25					30		
Leu	Ile	Val	Thr	Ser	Cys	Val	Ala	Leu	Gly	Leu	Tyr	Phe	Ser	Gly	Leu
		35					40					45			
Tyr	Arg	Ser	Leu	Phe	Ser	Phe	Trp	Trp	Val	Trp	Cys	Phe	Ala	Thr	Leu
	50					55				60					
Gly	Val	Ser	Phe	Phe	Ile	Asn	Ser	Lys	Ile	Gln	Thr	Leu	Ser	Val	Ser
65					70					75				80	
Ala	Val	Gly	Gly	Leu	Phe	Leu	Leu	Tyr	Ser	Thr	Leu	Glu	Gly	Met	Phe
			85					90					95		
Phe	Gly	Thr	Leu	Leu	Pro	Val	Tyr	Ala	Ala	Gln	Tyr	Gly	Gly	Gly	Val
		100					105					110			
Ile	Trp	Ala	Ala	Phe	Gly	Ser	Ala	Ala	Leu	Val	Phe	Gly	Leu	Ala	Ala
		115					120					125			
Val	Tyr	Gly	Ala	Phe	Thr	Lys	Ser	Asp	Leu	Thr	Lys	Ile	Ser	Lys	Ile
	130						135					140			

Met	Thr	Phe	Ala	Leu	Ile	Gly	Leu	Leu	Leu	Val	Thr	Leu	Val	Phe	Ala
145					150					155					160
Val	Val	Ser	Met	Phe	Val	Ser	Met	Pro	Leu	Ile	Tyr	Leu	Leu	Ile	Cys
			165						170						175
Tyr	Leu	Gly	Leu	Val	Ile	Phe	Val	Gly	Leu	Thr	Ala	Ala	Asp	Ala	Gln
			180					185						190	
Ala	Ile	Arg	Arg	Ile	Ser	Ser	Thr	Ile	Gly	Asp	Asn	Asn	Thr	Leu	Ser
		195					200					205			
Tyr	Lys	Leu	Ser	Leu	Met	Phe	Ala	Leu	Lys	Met	Tyr	Cys	Asn	Val	Ile
	210					215					220				
Met	Val	Phe	Trp	Tyr	Leu	Leu	Gln	Ile	Phe	Ser	Ser	Ser	Gly	Asn	Arg
225					230					235					240
Asp															

<210> 973  
 <211> 316  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 973															
Arg	Cys	Ile	Asn	Asn	Ser	Leu	Leu	Phe	Pro	Ser	Tyr	Leu	Val	Ser	Phe
1				5					10					15	
Leu	Leu	Leu	Gln	Leu	Thr	Leu	Leu	Leu	Ala	Met	Phe	Lys	Phe	Phe	Arg
			20					25					30		
Asn	Lys	Leu	Gln	Ser	Leu	Phe	Lys	Lys	Asn	Ile	Ser	Leu	Asp	Leu	Ile
		35					40					45			
Glu	Asp	Ala	Glu	Ser	Leu	Phe	Tyr	Glu	Ala	Asp	Phe	Gly	Thr	Glu	Leu
	50					55					60				
Thr	Glu	Glu	Leu	Cys	Ala	Arg	Leu	Arg	Arg	Thr	Lys	Lys	Ala	Asp	Ala
65				70						75				80	
Ser	Thr	Ile	Lys	Asp	Leu	Ile	Thr	Val	Leu	Arg	Glu	Ser	Leu	Glu	
			85						90				95		
Gly	Leu	Pro	Ser	Gln	Ala	Ser	Gln	Ser	Ser	Gln	Thr	Arg	Pro	Ile	Val
		100						105					110		
Ser	Leu	Leu	Leu	Gly	Thr	Asn	Gly	Ser	Gly	Lys	Thr	Thr	Thr	Ala	Ala
		115					120					125			
Lys	Leu	Ala	His	Tyr	Tyr	Lys	Glu	Arg	Ser	Glu	Ser	Val	Met	Leu	Val
	130					135					140				
Ala	Thr	Asp	Thr	Phe	Arg	Ala	Ala	Gly	Met	Asp	Gln	Ala	Arg	Leu	Trp
145					150					155					160
Ala	Asn	Glu	Leu	Gly	Cys	Gly	Phe	Val	Ser	Gly	Gln	Pro	Gly	Gly	Asp
			165						170					175	
Ala	Ala	Ala	Ile	Ala	Phe	Asp	Gly	Ile	Gln	Ser	Ala	Ile	Ala	Arg	Gly
			180					185					190		
Tyr	Ser	Arg	Val	Ile	Ile	Asp	Thr	Ser	Gly	Arg	Leu	His	Val	His	Gly
		195					200					205			
Asn	Leu	Met	Lys	Glu	Leu	Ser	Lys	Ile	Val	Ser	Val	Cys	Gly	Lys	Ala
	210					215					220				
Leu	Glu	Gly	Ala	Pro	His	Glu	Ile	Phe	Met	Thr	Val	Asp	Ser	Thr	Leu
225					230					235					240
Gly	Asn	Asn	Ala	Ile	Glu	Gln	Val	Arg	Val	Phe	His	Asp	Val	Val	Pro
			245						250					255	
Leu	Ser	Gly	Leu	Ile	Phe	Thr	Lys	Val	Asp	Gly	Ser	Ala	Lys	Gly	Gly
		260						265					270		
Thr	Leu	Phe	Gln	Ile	Ala	Lys	Arg	Leu	Lys	Ile	Pro	Thr	Lys	Phe	Ile
		275					280					285			
Gly	Tyr	Gly	Glu	Ser	Leu	Lys	Asp	Leu	Asn	Glu	Phe	Asp	Leu	Asp	Leu
	290					295					300				
Phe	Leu	Asn	Lys	Leu	Phe	Pro	Glu	Val	Glu	Lys	Ile				
305					310					315					

<210> 974  
 <211> 394  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 974  
 Glu Gly Lys Ser Lys Glu Leu Phe Met His Leu His Glu Tyr Gln Ala  
 1 5 10 15  
 Lys Asp Leu Leu Ala Ser Tyr Asp Val Pro Ile Pro Pro Tyr Trp Val  
 20 25 30  
 Val Ser Ser Glu Glu Glu Gly Glu Leu Leu Ile Thr Lys Ser Gly Leu  
 35 40 45  
 Asp Ser Ala Val Val Lys Val Gln Val His Ala Gly Gly Arg Gly Lys  
 50 55 60  
 His Gly Gly Val Ile Val Ala Lys Ser Ser Ala Gly Ile Leu Gln Ala  
 65 70 75 80  
 Val Ala Lys Leu Leu Gly Met His Phe Thr Ser Asn Gln Thr Ala Asp  
 85 90 95  
 Gly Phe Leu Pro Val Glu Lys Val Leu Ile Ser Pro Leu Val Ala Ile  
 100 105 110  
 Gln Arg Glu Tyr Tyr Val Ala Val Ile Met Asp Arg Lys His Arg Cys  
 115 120 125  
 Pro Val Leu Met Leu Ser Lys Ala Gly Gly Met Asp Ile Glu Glu Val  
 130 135 140  
 Ala His Ser Ser Pro Glu Gln Ile Leu Thr Leu Pro Leu Thr Ser Tyr  
 145 150 155 160  
 Gly His Ile Tyr Ser Tyr Gln Leu Arg Gln Ala Thr Lys Phe Met Glu  
 165 170 175  
 Trp Glu Gly Glu Val Met His Gln Gly Val Gln Leu Ile Lys Lys Leu  
 180 185 190  
 Ala Lys Cys Phe Tyr Glu Asn Asp Val Ser Leu Leu Glu Ile Asn Pro  
 195 200 205  
 Leu Val Leu Thr Leu Glu Gly Glu Leu Leu Val Leu Asp Ser Lys Ile  
 210 215 220  
 Thr Ile Asp Asp Asn Ala Leu Tyr Arg His Pro Asn Leu Glu Val Leu  
 225 230 235 240  
 Tyr Asp Pro Ser Gln Glu Asn Val Arg Asp Val Leu Ala Lys Gln Ile  
 245 250 255  
 Gly Leu Ser Tyr Ile Ala Leu Ser Gly Asn Ile Gly Cys Ile Val Asn  
 260 265 270  
 Gly Ala Gly Leu Ala Met Ser Thr Leu Asp Ile Leu Lys Leu His Gly  
 275 280 285  
 Gly Asn Ala Ala Asn Phe Leu Asp Val Gly Gly Gly Ala Ser Gln Lys  
 290 295 300  
 Gln Ile Gln Glu Ala Val Ser Leu Val Leu Ser Asp Glu Ser Val Lys  
 305 310 315 320  
 Val Leu Phe Ile Asn Ile Phe Gly Gly Ile Met Asp Cys Ser Val Val  
 325 330 335  
 Ala Ser Gly Leu Val Ala Val Met Glu Thr Arg Asp Gln Val Val Pro  
 340 345 350  
 Thr Val Ile Arg Leu Glu Gly Thr Asn Val Glu Leu Gly Lys Glu Ile  
 355 360 365  
 Val Gln Gln Ser Gly Ile Pro Cys Gln Phe Val Ser Ser Met Glu Glu  
 370 375 380  
 Gly Ala Arg Arg Ala Val Glu Leu Ser Met  
 385 390

<210> 975  
 <211> 300  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 975

Val	Cys	Arg	Phe	Arg	Arg	Tyr	Met	Phe	His	Ser	Leu	Ser	Lys	Asn	Thr
1				5					10					15	
Pro	Ile	Ile	Thr	Gln	Gly	Ile	Thr	Gly	Lys	Ala	Gly	Ser	Phe	His	Thr
			20					25					30		
Glu	Gln	Cys	Leu	Ala	Tyr	Gly	Thr	Asn	Phe	Val	Gly	Gly	Val	Thr	Pro
		35					40					45			
Gly	Lys	Gly	Gly	Thr	Leu	Trp	Leu	Asp	Leu	Pro	Val	Tyr	Asp	Ser	Val
	50					55					60				
Leu	Glu	Ala	Lys	Gln	Ala	Thr	Gly	Cys	Arg	Ala	Thr	Met	Ile	Phe	Val
65					70					75				80	
Pro	Pro	Pro	Tyr	Ala	Ala	Glu	Ala	Ile	Leu	Glu	Ala	Glu	Glu	Ala	Gly
				85					90					95	
Ile	Glu	Leu	Ile	Val	Cys	Ile	Thr	Glu	Gly	Ile	Pro	Val	Arg	Asp	Met
			100					105					110		
Leu	Glu	Val	Ala	Arg	Val	Met	Asp	Asn	Ser	Thr	Ser	Gln	Leu	Ile	Gly
		115					120					125			
Pro	Asn	Cys	Pro	Gly	Ile	Ile	Lys	Pro	Gly	Glu	Cys	Lys	Ile	Gly	Ile
	130					135					140				
Met	Pro	Gly	Tyr	Ile	His	Leu	Pro	Gly	Asn	Ile	Gly	Val	Val	Ser	Arg
145					150				155					160	
Ser	Gly	Thr	Leu	Thr	Tyr	Glu	Ala	Val	Trp	Gln	Leu	Thr	Gln	Leu	Lys
				165					170					175	
Ile	Gly	Gln	Ser	Ile	Cys	Val	Gly	Ile	Gly	Gly	Asp	Pro	Leu	Asn	Gly
			180					185					190		
Thr	Ser	Phe	Ile	Asp	Val	Leu	Gln	Ala	Leu	Glu	Glu	Asp	Pro	Tyr	Thr
		195					200					205			
Glu	Leu	Ile	Leu	Met	Ile	Gly	Glu	Ile	Gly	Gly	Ser	Ala	Glu	Glu	Glu
	210					215					220				
Ala	Ala	Ala	Trp	Ile	Gln	Ala	His	Cys	Thr	Lys	Pro	Val	Val	Ala	Phe
225					230					235				240	
Ile	Ala	Gly	Val	Thr	Ala	Pro	Lys	Gly	Lys	Arg	Met	Gly	His	Ala	Gly
				245					250					255	
Ala	Ile	Ile	Ser	Gly	Asn	Ser	Gly	Asp	Ala	Lys	Ser	Lys	Ile	Gln	Val
			260					265					270		
Leu	Arg	Glu	Ser	Gly	Val	Thr	Val	Val	Glu	Ser	Pro	Ala	His	Ile	Gly
		275					280					285			
Lys	Thr	Val	Asp	Ala	Val	Leu	Arg	Ala	Lys	Glu	Leu				
	290						295				300				

<210> 976  
 <211> 200  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 976

Gly	Ile	Glu	Glu	Gln	Val	Ala	Leu	Ser	Ile	Ala	Ile	Lys	Ile	Leu	Lys
1				5					10					15	
Ile	Ile	Leu	Ala	Leu	Ile	Leu	Phe	Pro	Leu	Val	Leu	Leu	Ala	Trp	Val
			20					25					30		
Ile	Arg	Tyr	Gln	Leu	His	Ala	Asn	Phe	His	Cys	Ser	Val	Val	Pro	Phe
		35					40					45			
Pro	Gly	Phe	Ser	Val	Asn	Gln	Ala	Tyr	Lys	Cys	Ser	Glu	Ala	Lys	Ile
	50					55					60				
Glu	Glu	Met	Leu	Asp	Leu	Leu	Asp	Leu	Glu	Thr	Leu	Glu	Trp	Ser	Ser
65					70					75				80	
Arg	Cys	Leu	Arg	Gln	Asp	Met	Thr	Phe	Ala	Asn	Arg	Leu	Glu	Glu	Glu
				85					90					95	
Leu	Ile	Gln	Glu	Leu	Arg	Val	Ser	Glu	Thr	Glu	Glu	Leu	Ile	Ser	Leu
			100					105					110		

Gly	Gly	Lys	Arg	Asn	Leu	Val	Arg	Leu	Leu	Leu	Thr	His	Phe	Phe	Asn
		115					120					125			
Pro	Pro	Lys	Arg	Ser	Arg	Val	Glu	Ser	Val	Gly	His	Glu	Val	Val	Phe
		130				135					140				
Pro	Val	Phe	Asp	Arg	Leu	Lys	Arg	Glu	Glu	Glu	Ile	Ile	Gly	Asp	Gly
145					150					155					160
Pro	Ile	Thr	Arg	Ser	Asn	Glu	Glu	Leu	Trp	Ala	Leu	Leu	Asp	His	Gly
				165					170					175	
Thr	Ala	Arg	Gly	Ile	His	Lys	Thr	Leu	Trp	Phe	Ser	Ile	Phe	Phe	Lys
			180					185					190		
Tyr	Leu	Thr	Gln	Ile	Glu	Leu	Phe								
		195					200								

<210> 977

<211> 369

<212> PRT

<213> Chlamydia pneumoniae

<400> 977

Ile	Leu	Met	Leu	Val	Tyr	Cys	Phe	Asp	Pro	Ser	Val	Pro	Thr	Ser	Pro
1				5					10					15	
Glu	His	Arg	Leu	Met	Ala	Ala	Leu	Asp	Arg	Trp	Phe	Phe	Leu	Gly	Gly
			20					25					30		
His	Arg	Ala	Arg	Ile	Leu	Thr	Leu	Glu	Gly	Asn	His	Tyr	Arg	Ala	Phe
		35				40						45			
Gln	Glu	Asn	Met	Ser	Ile	Ser	Thr	Val	Glu	Lys	Ile	Leu	Lys	Leu	Ile
	50					55					60				
Ser	Tyr	Leu	Leu	Ile	Pro	Ile	Val	Leu	Ile	Ala	Leu	Leu	Ile	Arg	Cys
65				70					75					80	
Phe	Leu	His	Ser	Arg	Phe	Lys	Cys	Asn	Trp	Lys	Cys	Asp	Ser	Leu	Ser
			85						90					95	
Asp	Ala	Arg	Val	Pro	His	Asp	Val	Gln	Pro	Phe	Asn	Asp	Phe	Gln	Leu
			100					105					110		
Phe	Asn	Asn	Gln	Glu	Arg	Leu	Asn	Ile	Trp	Lys	Asn	Arg	Arg	Tyr	Val
	115						120					125			
Ser	Gly	Ile	Asp	Val	Leu	Met	Val	Pro	Val	Asp	Tyr	Leu	Arg	Ser	Gln
	130					135					140				
Phe	Pro	Gly	Phe	Lys	Glu	Ile	Pro	Glu	Ala	Ile	Arg	Cys	Glu	Asn	Tyr
145					150				155					160	
Val	Ser	Asp	Gly	Gln	Phe	Ser	Glu	Glu	Ser	Lys	Thr	Ser	Tyr	Leu	Arg
			165						170					175	
Ala	Met	Leu	Thr	Asp	Ile	Val	Gly	Tyr	Ile	Leu	Ser	Leu	Asp	Glu	Thr
			180					185					190		
Tyr	Trp	Thr	Asn	Val	Ile	Leu	Lys	Ile	Arg	Ala	Met	Cys	Ile	Thr	Phe
		195					200					205			
Glu	Ser	Phe	Pro	Gly	Lys	Glu	Ala	Asp	Pro	Asn	Tyr	Ser	Pro	Arg	Val
	210				215						220				
Thr	His	His	Tyr	Phe	Asp	Glu	Ser	Trp	Lys	Ala	Leu	Ala	Arg	His	Val
225					230					235				240	
Leu	Gly	Glu	Gly	Asn	Met	Val	Asn	Arg	Leu	Asp	Glu	Ala	Leu	Ile	Arg
			245						250					255	
Thr	Glu	Lys	Pro	Gly	Lys	Glu	Gly	Glu	Cys	Ile	Thr	Lys	Gln	Phe	Leu
			260					265					270		
Lys	Asp	Tyr	Cys	Lys	Lys	His	Leu	Glu	Val	Met	Ser	Cys	Pro	Asp	Phe
		275					280					285			
Ile	Glu	Ser	Leu	Val	Asp	Glu	Lys	Ile	Arg	Glu	Phe	Arg	Cys	Pro	Ser
	290					295					300				
Ile	Leu	Asn	Ser	Ala	Val	Cys	Asp	Val	Ile	Asp	Arg	Lys	Cys	Gln	Glu
305					310					315				320	
His	Leu	Leu	Lys	Ala	Ile	Ile	Asn	Glu	Ala	Asn	Arg	Arg	Leu	Pro	Gly
			325						330					335	

Met Lys Asn Ser Ser Phe Thr Met Arg Gly Asn Gln Val Leu Phe Tyr  
 340 345 350  
 Thr Ile Phe Ser Pro Pro Lys Leu Pro Pro Ala Ala Ser Ser Val Tyr  
 355 360 365  
 Phe

<210> 978  
 <211> 358  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 978  
 Leu Tyr Ile Asn Gln Phe Ala Asn Ile Leu Lys Ser Ser Phe Leu Met  
 1 5 10 15  
 Glu Val Tyr Ser Phe Ser Pro Ser Val Arg Thr Ser Phe Gln His Arg  
 20 25 30  
 Val Met Ala Ala Leu Asp Asn Trp Phe Phe Leu Gly Gly Arg Arg Leu  
 35 40 45  
 Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly Gln Ala Cys Glu Glu  
 50 55 60  
 Tyr Val Pro Ile Ser Thr Thr Glu Lys Val Leu Lys Ile Leu Ser Tyr  
 65 70 75 80  
 Leu Leu Ile Pro Ile Val Ile Ile Ala Leu Leu Ile Arg Tyr Leu Leu  
 85 90 95  
 His Ser Asn Phe Thr Ala Lys Val Ser Gln Lys Pro Trp Leu Lys Thr  
 100 105 110  
 Leu Gln Leu Gly Ile Asp Ile Lys Ser Phe Ile Leu Pro Gly Ser His  
 115 120 125  
 Val Asn Thr Met Asp Ser Ala Thr Leu Phe Lys Ala Ile Arg Leu Glu  
 130 135 140  
 Gly Lys Arg Val Asp Val Glu Tyr His Arg Leu His Ser Ser Asp Lys  
 145 150 155 160  
 Val Val Phe Tyr Ile Pro Ala Gln Lys Leu Pro Asp Asp Leu Arg Leu  
 165 170 175  
 Thr His Trp Leu Pro Glu Lys Glu Thr Arg Lys Thr Glu Tyr Val Arg  
 180 185 190  
 His Met Leu Ala His Val Met Gly Tyr Leu Thr Ser Gln Gly Lys Glu  
 195 200 205  
 Arg Leu Gln Gln Val Val Gln Asp Ser Arg Ser Ser Thr Ser Leu Gly  
 210 215 220  
 Ala Glu Lys Val Leu Gln Tyr Arg Phe Ile Asp His Pro Gln Ser Gln  
 225 230 235 240  
 Gly Glu Phe Gln Arg Leu Leu Asn Glu Asn Ile Thr Thr Lys Gly Ser  
 245 250 255  
 Glu Asp Lys Glu Val Val Gln Ser Asp Leu Phe Asp Met Ala Phe Gln  
 260 265 270  
 Cys Trp Trp Pro Gln Phe Ile Ser Val Ile Gln Ser Pro Thr Phe Ser  
 275 280 285  
 Glu Glu Leu Val His Glu Met Ser Gln Lys Leu Asp Leu Asp Cys Ile  
 290 295 300  
 Tyr Pro Glu Asp Asp Glu Phe Glu Gln Lys Phe Leu Asn Thr Leu Leu  
 305 310 315 320  
 Lys Ala Val Leu His His Gly Phe Glu Gly Ile Ser Val Ala Ser Met  
 325 330 335  
 Gly Val Ile Phe Leu Ile Cys Pro Asp Ser Leu Ala Leu Gln Ile Pro  
 340 345 350  
 Phe Leu Arg Asn Gln Lys  
 355

<210> 979  
 <211> 347  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 979  
 Lys Tyr Phe Phe Met Glu Val Tyr Ser Phe His Pro Ala Val Arg Thr  
 1 5 10 15  
 Ser Phe Gln His Arg Val Met Ala Ala Leu Asp Ala Trp Phe Phe Leu  
 20 25 30  
 Gly Gly His Arg Leu Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly  
 35 40 45  
 Trp Ala Tyr Gln Glu Leu Val Ser Ile Ser Thr Thr Glu Lys Val Leu  
 50 55 60  
 Lys Leu Leu Ser Tyr Leu Leu Val Pro Ile Val Ile Ile Ala Leu Leu  
 65 70 75 80  
 Ile Arg Cys Leu Leu His Ser Asn Phe Arg Ile Asp Val Glu Lys Glu  
 85 90 95  
 Arg Trp Leu Lys Ile Arg Glu Leu Gly Ile Asp Ile Glu Ser Cys Lys  
 100 105 110  
 Leu Pro Ser Ser Tyr Val Asn Gln Val Ser Ser Phe Ile Trp Phe Glu  
 115 120 125  
 Lys Asp Lys Ser Lys Arg Pro Arg Ile Asp Val Asp Tyr His Thr Leu  
 130 135 140  
 His Ser Lys Asp Trp Val Val Phe Pro Ile Val Phe Gln Lys Ile Pro  
 145 150 155 160  
 Lys Thr Ser Arg Phe Ser Tyr Trp Phe Ser Gln Lys Glu Thr Arg Lys  
 165 170 175  
 Arg Asp Tyr Val Arg Asn Met Leu Asp His Val Ile Gly Tyr Leu Thr  
 180 185 190  
 Ser Glu Gly Gly Glu Trp Leu Gln Tyr Ile Ser Lys Thr Ser Tyr Gln  
 195 200 205  
 Ser Ala Thr Ser Leu Asp Pro Glu Arg Val Leu Gln Tyr Cys Leu Thr  
 210 215 220  
 Asp Asn Gln Glu Leu Gln Gly Glu Val Gln Arg Leu Leu Asn Glu Glu  
 225 230 235 240  
 Ser Ala Thr Lys Ser Ser Gly Asp Lys Glu Val Leu Leu Ser His Val  
 245 250 255  
 Ser Asp Ile Ile Cys Gln Cys Trp Trp Pro Lys Phe Leu Glu Val Ile  
 260 265 270  
 Gln Ser Pro Ala Phe Ile Glu Glu Leu Val Glu Glu Val Ser Gly Lys  
 275 280 285  
 Leu Asn Leu Asp Phe Leu Cys Leu Glu Lys Ala Asn Thr Leu Asp Gln  
 290 295 300  
 Glu Leu Arg Asn Ser Leu Leu Arg Ala Val Val His His Gly Ser Glu  
 305 310 315 320  
 Gly Val Asp Ile Lys Lys Val Gly Ala Gly Leu Ile Ile Tyr Thr Glu  
 325 330 335  
 Ala Ile Gln Leu Gln Ile Pro Phe Ser Arg Ser  
 340 345

<210> 980  
 <211> 491  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 980  
 Gly Ile Asp Met Ile Thr Lys Gln Leu Arg Ser Trp Leu Ala Val Leu  
 1 5 10 15  
 Val Gly Ser Ser Leu Leu Ala Leu Pro Leu Ser Gly Gln Ala Val Gly  
 20 25 30

Lys	Lys	Glu	Ser	Arg	Val	Ser	Glu	Leu	Pro	Gln	Asp	Val	Leu	Leu	Lys
		35					40				45				
Glu	Ile	Ser	Gly	Gly	Phe	Ser	Lys	Val	Ala	Thr	Lys	Ala	Thr	Pro	Ala
	50					55					60				
Val	Val	Tyr	Ile	Glu	Ser	Phe	Pro	Lys	Ser	Gln	Ala	Val	Thr	His	Pro
65					70					75					80
Ser	Pro	Gly	Arg	Arg	Gly	Pro	Tyr	Glu	Asn	Pro	Phe	Asp	Tyr	Phe	Asn
				85					90					95	
Asp	Glu	Phe	Phe	Asn	Arg	Phe	Phe	Gly	Leu	Pro	Ser	Gln	Arg	Glu	Lys
			100					105					110		
Pro	Gln	Ser	Lys	Glu	Ala	Val	Arg	Gly	Thr	Gly	Phe	Leu	Val	Ser	Pro
		115					120					125			
Asp	Gly	Tyr	Ile	Val	Thr	Asn	Asn	His	Val	Val	Glu	Asp	Thr	Gly	Lys
	130					135					140				
Ile	His	Val	Thr	Leu	His	Asp	Gly	Gln	Lys	Tyr	Pro	Ala	Thr	Val	Ile
145					150					155					160
Gly	Leu	Asp	Pro	Lys	Thr	Asp	Leu	Ala	Val	Ile	Lys	Ile	Lys	Ser	Gln
				165					170					175	
Asn	Leu	Pro	Tyr	Leu	Ser	Phe	Gly	Asn	Ser	Asp	His	Leu	Lys	Val	Gly
		180						185				190			
Asp	Trp	Ala	Ile	Ala	Ile	Gly	Asn	Pro	Phe	Gly	Leu	Gln	Ala	Thr	Val
	195					200					205				
Thr	Val	Gly	Val	Ile	Ser	Ala	Lys	Gly	Arg	Asn	Gln	Leu	His	Ile	Ala
	210					215					220				
Asp	Phe	Glu	Asp	Phe	Ile	Gln	Thr	Asp	Ala	Ala	Ile	Asn	Pro	Gly	Asn
225					230					235					240
Ser	Gly	Gly	Pro	Leu	Leu	Asn	Ile	Asp	Gly	Gln	Val	Ile	Gly	Val	Asn
				245					250					255	
Thr	Ala	Ile	Val	Ser	Gly	Ser	Gly	Gly	Tyr	Ile	Gly	Ile	Gly	Phe	Ala
		260						265					270		
Ile	Pro	Ser	Leu	Met	Ala	Asn	Arg	Ile	Ile	Asp	Gln	Leu	Ile	Arg	Asp
		275					280					285			
Gly	Gln	Val	Thr	Arg	Gly	Phe	Leu	Gly	Val	Thr	Leu	Gln	Pro	Ile	Asp
	290					295					300				
Ala	Glu	Leu	Ala	Ala	Cys	Tyr	Lys	Leu	Glu	Lys	Val	Tyr	Gly	Ala	Leu
305					310					315					320
Val	Thr	Asp	Val	Val	Lys	Gly	Ser	Pro	Ala	Asp	Lys	Ala	Gly	Leu	Lys
				325					330					335	
Gln	Glu	Asp	Val	Ile	Ile	Ala	Tyr	Asn	Gly	Lys	Glu	Val	Asp	Ser	Leu
			340					345					350		
Ser	Met	Phe	Arg	Asn	Ala	Val	Ser	Leu	Met	Asn	Pro	Asp	Thr	Arg	Ile
		355					360					365			
Val	Leu	Lys	Val	Val	Arg	Glu	Gly	Lys	Val	Ile	Glu	Ile	Pro	Val	Thr
	370					375					380				
Val	Ser	Gln	Ala	Pro	Lys	Glu	Asp	Gly	Met	Ser	Ala	Leu	Gln	Arg	Val
385					390					395					400
Gly	Ile	Arg	Val	Gln	Asn	Leu	Thr	Pro	Glu	Thr	Ala	Lys	Lys	Leu	Gly
			405						410					415	
Ile	Ala	Pro	Glu	Thr	Lys	Gly	Ile	Leu	Ile	Ile	Ser	Val	Glu	Pro	Gly
			420					425					430		
Ser	Val	Ala	Ala	Ser	Ser	Gly	Ile	Ala	Pro	Gly	Gln	Leu	Ile	Leu	Ala
		435					440					445			
Val	Asn	Arg	Gln	Lys	Val	Ser	Ser	Ile	Glu	Asp	Leu	Asn	Arg	Thr	Leu
	450					455					460				
Lys	Asp	Ser	Asn	Asn	Glu	Asn	Ile	Leu	Leu	Met	Val	Ser	Gln	Gly	Asp
465					470					475					480
Val	Ile	Arg	Phe	Ile	Ala	Leu	Lys	Pro	Glu	Glu					
				485					490						



<210> 981  
 <211> 495  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 981  
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 Ile Phe Phe Ser Thr Lys Asp Lys Leu Ser Tyr Cys Asp Ile Ile Phe  
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 Asn Asn Cys Ser Gly Lys Pro Met Asn Leu Asp Ser Lys His Phe Asp  
 35 40 45  
 Ile Asn Ser Ala Asn Phe Leu Glu Glu Phe Ala Lys Phe Ile Ser Phe  
 50 55 60  
 Pro Ser Ile Ser Ala Asp Ser Asp His Leu Gln Asp Cys Glu Asn Cys  
 65 70 75 80  
 Ala His Phe Leu Val Asp His Val Asn Lys Ile Phe Asp Val Glu Leu  
 85 90 95  
 Trp Glu Thr Pro Gly His Pro Pro Ile Ile Tyr Ala Ser Tyr Lys Ser  
 100 105 110  
 Glu Asp Pro Leu Ser Pro Thr Leu Met Leu Tyr Asn His Tyr Asp Val  
 115 120 125  
 Gln Pro Ala Gln Leu Ser Asp Gly Trp Lys Gly Asp Pro Phe Ile Leu  
 130 135 140  
 Arg Glu Glu Asn Gly Asn Leu Tyr Ala Arg Gly Ala Ser Asp Asn Lys  
 145 150 155 160  
 Gly Gln Cys Phe Tyr Thr Leu Lys Ala Leu Gln His Tyr Tyr Glu Ser  
 165 170 175  
 Gln Gly Asn Phe Pro Leu Asn Ile Ile Trp Leu Ile Glu Gly Glu Glu  
 180 185 190  
 Glu Ser Gly Ser Leu Ala Leu Phe Thr Trp Leu Glu Lys Lys Lys Glu  
 195 200 205  
 Ala Leu Arg Ala Asp Tyr Leu Ile Val Asp Gly Gly Phe Leu Ser  
 210 215 220  
 Glu Lys His Pro Tyr Val Ser Ile Gly Ala Arg Gly Ile Val Ser Met  
 225 230 235 240  
 Lys Ile Ser Leu Glu Glu Gly Asn Lys Asp Met His Ser Gly Val Leu  
 245 250 255  
 Gly Gly Ile Ala Tyr Asn Thr Asn Arg Ala Leu Ser Glu Ile Leu Ser  
 260 265 270  
 Ser Leu His His Pro Asp Asn Ser Ile Ala Ile Glu Gly Phe Tyr Asp  
 275 280 285  
 Asp Leu Ala Leu Pro Ser Asp Ser Asp Arg Pro Asp Leu Pro Lys Ser  
 290 295 300  
 Asp Thr Leu Arg Glu Cys Glu Glu Asn Leu Gly Phe Arg Pro Gln Gly  
 305 310 315 320  
 Tyr Glu Ala Ser Tyr Ser Pro Glu Glu Ser Ala Leu Arg Pro Thr Val  
 325 330 335  
 Glu Ile Asn Gly Ile Ser Gly Gly Tyr Thr Gly Pro Gly Phe Lys Thr  
 340 345 350  
 Val Ile Pro Tyr Arg Ala Thr Ala Tyr Leu Ser Cys Arg Leu Val Pro  
 355 360 365  
 Asn Gln Asp Pro Asp Lys Ala Ala His Gln Val Ile His His Leu Lys  
 370 375 380  
 Gln Gln Val Pro Ser Ser Leu Lys Phe Ser Tyr Glu Ile Leu Pro Gly  
 385 390 395 400  
 Gly Ser Arg Gly Trp Arg Ser Ser Ala Asn Leu Pro Ile Val Lys Val  
 405 410 415  
 Leu Gln Glu Ile Tyr Ser Asp Leu Tyr Asn Glu Glu Cys Leu Arg Leu  
 420 425 430

Val	Met	Pro	Ala	Thr	Ile	Pro	Ile	Gly	Pro	Leu	Leu	Gly	Glu	Ala	Ala
		435					440				445				
Gln	Thr	Ser	Pro	Ile	Ile	Cys	Gly	Thr	Ser	Tyr	Leu	Ser	Asp	Asp	Ile
	450					455					460				
His	Ala	Ala	Glu	Glu	His	Phe	Ser	Met	Asp	Gln	Leu	Lys	Lys	Gly	Phe
465					470					475					480
Leu	Ser	Ile	Cys	Gln	Leu	Leu	Asp	Lys	Leu	Pro	Lys	Ile	Lys	Glu	
			485						490					495	

<210> 982

<211> 978

<212> PRT

<213> Chlamydia pneumoniae

<400> 982

Val	Thr	Glu	Ser	Met	Lys	Ala	Gly	Asp	Thr	Tyr	Arg	Asn	Phe	Ile	Ile
1				5				10						15	
Lys	Ser	Cys	Lys	Asp	Leu	Pro	Glu	Ile	Glu	Ser	Lys	Leu	Leu	Glu	Ala
			20				25					30			
Glu	His	Lys	Pro	Thr	Gly	Ala	Ser	Ile	Met	Met	Ile	Val	Asn	Asn	Asp
		35				40						45			
Glu	Glu	Asn	Val	Phe	Asn	Ile	Cys	Phe	Arg	Thr	Cys	Pro	Gln	Thr	Ser
	50				55						60				
Asn	Gly	Val	Ala	His	Val	Leu	Glu	His	Met	Val	Leu	Cys	Gly	Ser	Glu
65				70					75					80	
Asn	Tyr	Pro	Val	Arg	Asp	Pro	Phe	Phe	Ser	Met	Thr	Arg	Arg	Ser	Leu
			85					90					95		
Asn	Thr	Phe	Ile	Asn	Ala	Phe	Thr	Gly	Pro	Asp	Phe	Thr	Cys	Tyr	Pro
			100					105					110		
Ala	Ala	Ser	Gln	Ile	Pro	Glu	Asp	Phe	Tyr	Asn	Leu	Leu	Ser	Val	Tyr
		115					120					125			
Ile	Asp	Ala	Val	Phe	His	Pro	Leu	Leu	Thr	Lys	Gln	Ser	Phe	Leu	Gln
	130				135						140				
Glu	Ala	Trp	Arg	Tyr	Glu	Phe	Asn	Ser	Glu	Asn	His	Leu	Cys	Tyr	Thr
145				150					155					160	
Gly	Val	Val	Phe	Asn	Glu	Met	Lys	Gly	Ala	Met	Met	Ser	Gly	Glu	Ala
			165					170					175		
Arg	Leu	Ser	Glu	Ala	Leu	Asn	Ala	Ala	Ile	Phe	Pro	Ser	Val	Thr	Tyr
		180					185						190		
Gly	Val	Asn	Ser	Gly	Gly	Glu	Pro	Arg	Glu	Ile	Val	Thr	Leu	Ser	His
	195					200					205				
Glu	Asp	Val	Arg	Ala	Phe	His	Gln	Ser	Gln	Tyr	Ser	Ile	Asn	Arg	Cys
	210				215						220				
Leu	Phe	Tyr	Phe	Tyr	Gly	Asn	Ile	Lys	Pro	Ser	Arg	His	Leu	Asp	Phe
225				230					235					240	
Leu	Glu	Glu	Lys	Leu	Leu	Arg	Gln	Ala	Thr	Lys	Leu	Glu	Lys	Gln	Ala
			245					250					255		
Val	Ser	Val	Pro	Leu	Gln	Lys	Arg	Phe	Lys	Glu	Pro	Val	Arg	Asn	Ile
		260					265						270		
Leu	Thr	Tyr	Pro	Val	Asp	His	Gln	Glu	Glu	Asp	Lys	Val	Leu	Phe	Gly
	275					280						285			
Ile	Ser	Trp	Leu	Thr	Cys	Ser	Ile	Leu	Glu	Gln	Gln	Glu	Leu	Leu	Ala
	290				295						300				
Leu	His	Val	Leu	Glu	Ile	Ile	Leu	Met	Gly	Thr	Asp	Ala	Ser	Pro	Leu
305				310					315					320	
Lys	Ser	Arg	Leu	Leu	Lys	Ser	Gly	Phe	Cys	Lys	Gln	Thr	Glu	Met	Ser
			325					330					335		
Ile	Glu	Asn	Asp	Ile	Arg	Glu	Ile	Pro	Met	Thr	Leu	Val	Cys	Lys	Gly
		340					345						350		
Cys	Ser	Pro	Ala	Gly	Ala	Gln	Lys	Leu	Glu	Ala	Leu	Ile	Phe	Ala	Ser
		355				360						365			

Leu	Glu	Glu	Ile	Ile	Arg	Glu	Gly	Ile	Ser	Glu	Asn	Ile	Val	Glu	Gly	370	375	380
Ala	Val	His	Gln	Leu	Glu	Leu	Ser	Arg	Lys	Glu	Ile	Thr	Gly	Tyr	Ser	385	390	395
Leu	Pro	Tyr	Gly	Leu	Ser	Leu	Phe	Phe	Arg	Ser	Gly	Leu	Leu	Lys	Gln	405	410	415
His	Gly	Gly	Ser	Ala	Glu	Asp	Gly	Leu	Arg	Ile	His	Ser	Leu	Phe	Ser	420	425	430
Glu	Leu	Arg	Asn	Ser	Leu	Lys	Asn	Ser	Asp	Tyr	Leu	Ala	Lys	Leu	Ile	435	440	445
Arg	Lys	Tyr	Phe	Leu	Asp	Asn	Pro	His	Phe	Ala	Arg	Val	Ile	Leu	Leu	450	455	460
Pro	Asp	Thr	Glu	Leu	Val	Ala	Lys	Asp	Asn	Lys	Asp	Glu	Gln	Gln	Leu	465	470	475
Leu	Leu	Ser	Val	Ser	Glu	Lys	Leu	Thr	Asp	Glu	Asn	Lys	Glu	Lys	Ile	485	490	495
Gln	Gln	Asn	Val	Arg	Glu	Leu	Thr	Glu	Ser	Gln	Glu	Gln	Lys	Glu	Asp	500	505	510
Leu	Asn	Gly	Ile	Leu	Pro	Asn	Leu	Ala	Leu	Asp	Lys	Val	Pro	Thr	Ser	515	520	525
Gly	Lys	Glu	Phe	Pro	Leu	Ile	Lys	Glu	Gly	Leu	Ser	Gln	Gly	Glu	Val	530	535	540
Leu	His	His	Glu	Cys	Phe	Thr	Asn	Asp	Ile	Val	Phe	Ile	Asp	Val	Val	545	550	555
Leu	Asp	Ile	Pro	Pro	Leu	Ser	Gly	Glu	Glu	Leu	Pro	Trp	Leu	Arg	Leu	565	570	575
Leu	Val	Phe	Leu	Met	Leu	Gln	Leu	Gly	Cys	Gly	Gly	Arg	Ser	Tyr	Lys	580	585	590
Glu	His	Leu	Glu	Phe	Leu	Leu	Glu	His	Thr	Gly	Gly	Val	Asp	Val	Ser	595	600	605
Tyr	Asp	Phe	Ser	Pro	His	Ala	Asn	Lys	Asn	Ser	Phe	Leu	Ser	Pro	Ser	610	615	620
Val	Ser	Ile	Arg	Gly	Lys	Ala	Leu	Ser	Ser	Lys	Ser	Glu	Lys	Leu	Cys	625	630	635
Gly	Ile	Val	Ser	Asp	Met	Leu	Thr	Ser	Val	Asp	Phe	Thr	Asp	Ile	Pro	645	650	655
Arg	Ile	Arg	Glu	Leu	Leu	Met	Gln	His	Asn	Glu	Ala	Leu	Thr	Asn	Ser	660	665	670
Val	Arg	Asn	Ser	Pro	Met	Ser	Tyr	Ala	Val	Ser	Met	Ala	Cys	Ser	Gly	675	680	685
Asn	Ser	Ile	Thr	Gly	Ala	Met	Ser	Tyr	Leu	Thr	Thr	Gly	Leu	Pro	Tyr	690	695	700
Val	Lys	Lys	Ile	Arg	Glu	Leu	Thr	Lys	Asn	Phe	Asp	Gln	Asn	Ile	Asp	705	710	715
Glu	Ala	Val	Val	Ile	Leu	Gln	Arg	Leu	Tyr	Thr	Lys	Cys	Phe	Ser	Gly	725	730	735
Lys	Arg	Gln	Ile	Val	Ile	Ser	Gly	Ser	Ala	His	Asn	Tyr	Gln	Gln	Leu	740	745	750
Lys	Asp	Asn	Lys	Phe	Tyr	Gly	Leu	Leu	Asp	Tyr	Leu	Ile	Val	Ile	Pro	755	760	765
Glu	Pro	Trp	Glu	Asn	Pro	Ser	Ile	Asn	Leu	Tyr	Val	Thr	Ser	Arg	Gly	770	775	780
Leu	His	Ile	Pro	Ala	Arg	Ala	Ala	Phe	Asn	Ala	Leu	Ala	Phe	Pro	Ile	785	790	795
Gly	Asp	Ile	Ala	Tyr	Asp	His	Pro	Asp	Ala	Ala	Ala	Leu	Thr	Val	Ala	805	810	815
Ala	Glu	Ile	Leu	Asp	Asn	Val	Val	Leu	His	Thr	Lys	Ile	Arg	Glu	Gln	820	825	830
Gly	Gly	Ala	Tyr	Gly	Ser	Gly	Ala	Ala	Ala	Asn	Leu	Ser	Arg	Gly	Ser	835	840	845

Phe	Tyr	Cys	Tyr	Ser	Tyr	Arg	Asp	Pro	Glu	Ile	Ala	Thr	Thr	Tyr	Lys
850						855					860				
Thr	Phe	Leu	Lys	Gly	Val	Ser	Glu	Ile	Ala	Ser	Gly	Asn	Phe	Thr	Lys
865						870					875				880
Glu	Asp	Ile	Tyr	Glu	Gly	Ala	Leu	Gly	Val	Val	Gln	Gly	Leu	Asp	Met
				885					890					895	
Pro	Val	Ala	Pro	Gly	Ser	Arg	Ala	Ser	Val	Ala	Phe	Tyr	Arg	Leu	Lys
			900					905					910		
Ser	Gly	Arg	Ile	Pro	Val	Leu	Arg	Gln	Ala	Phe	Arg	Arg	Ser	Val	Leu
		915					920					925			
Glu	Val	Thr	Lys	Glu	His	Ile	Cys	Met	Val	Met	Asp	Lys	Tyr	Leu	Glu
	930					935					940				
Ser	Thr	Val	Gln	Glu	Thr	Leu	Ile	Ser	Phe	Ala	Gly	Glu	Glu	Met	
945					950				955					960	
Leu	Arg	Asn	Asn	Val	Leu	Thr	Leu	Asp	Lys	Asp	Phe	Pro	Ile	Val	Pro
				965					970					975	
Ala	Ile														

<210> 983  
 <211> 418  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 983

Lys	Lys	Glu	Leu	Ala	Ser	Val	Met	Asn	Leu	Pro	Val	Ser	Leu	Ala	Cys
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Leu	Leu	Leu	Ser	Gly	Cys	Val	Phe	Phe	Leu	Gly	Val	Phe	Val	Ser	Ser
			20				25						30		
Ser	Leu	Tyr	Ala	Arg	Lys	Lys	Arg	Ala	Phe	Leu	Glu	Lys	Ile	Gln	Lys
		35					40					45			
Leu	Glu	His	Glu	Asn	Gln	Leu	Leu	Gln	Thr	Ser	Leu	Asn	Leu	Ser	Arg
	50					55					60				
His	Gln	Glu	Gln	Leu	Ile	Glu	Asp	Phe	Ser	Asn	Arg	Leu	Ala	Leu	Ser
65					70					75					80
Ser	His	Lys	Leu	Ile	Lys	Asp	Met	Lys	Glu	Glu	Ala	Gln	Asn	Tyr	Phe
			85						90					95	
Gly	Asp	Thr	Ser	Lys	Ser	Phe	Gln	Ser	Ile	Leu	Ser	Pro	Ile	Gln	Thr
			100					105						110	
Thr	Leu	Thr	Thr	Phe	Lys	Gln	Ser	Leu	Glu	Thr	Phe	Glu	Thr	Lys	His
		115					120						125		
Ala	Glu	Asp	Arg	Gly	Arg	Leu	Lys	Glu	Gln	Ile	Ser	Gln	Leu	Leu	Ala
	130					135					140				
Val	Glu	Lys	Lys	Leu	Glu	His	Glu	Thr	His	Val	Leu	Thr	Asp	Ile	Leu
145					150					155					160
Lys	His	Pro	Gly	Ser	Arg	Gly	Arg	Trp	Gly	Glu	Ile	Gln	Leu	Glu	Arg
			165						170					175	
Ile	Leu	Glu	Leu	Ala	Gly	Met	Leu	Lys	Tyr	Cys	Asp	Tyr	Asp	Ser	Gln
			180					185						190	
Thr	Thr	Ser	Ala	Gln	Gly	Ala	Phe	Arg	Ala	Asp	Ile	Ile	Ile	Arg	Leu
		195					200						205		
Pro	Gln	Asp	Arg	Cys	Leu	Ile	Ile	Asp	Ala	Lys	Ala	Pro	Ile	Ser	Asp
	210					215					220				
Ser	Tyr	Phe	Ser	Val	Glu	Ile	Asp	Lys	Gly	Asp	Leu	Val	Asp	Lys	
225					230				235					240	
Ile	Lys	Glu	His	Ile	Lys	Thr	Leu	Lys	Ser	Lys	Ser	Tyr	Trp	Glu	Lys
			245						250					255	
Phe	His	Gln	Ser	Pro	Glu	Tyr	Val	Ile	Leu	Phe	Leu	Pro	Gly	Glu	Ser
			260					265					270		
Leu	Phe	Asn	Asp	Ala	Ile	Arg	Leu	Ala	Pro	Glu	Leu	Met	Glu	Ile	Gly
		275					280						285		

Ala Ser Ser Asn Val Ile Leu Ser Ser Pro Leu Thr Leu Leu Ala Leu  
290 295 300  
Leu Lys Thr Ile Ala Tyr Met Trp Lys Gln Glu Asn Leu Gln Lys Gln  
305 310 315 320  
Ile Gln Glu Val Ser Leu Leu Gly Lys Glu Leu His Arg Arg Leu Gln  
325 330 335  
Val Val Phe Thr His Phe Gln Lys Ile Gly Lys Asn Leu Asn Gln Thr  
340 345 350  
Val Gln Ser Tyr Asn Asp Met Thr Ser Ser Phe Gln Tyr Arg Val Leu  
355 360 365  
Pro Thr Leu Arg Lys Phe Glu Gly Leu Glu Thr Ser Ser Ser His Gln  
370 375 380  
Ile Glu Glu Pro Thr Pro Ile Glu Ser Leu Ala Thr Ser Phe Pro His  
385 390 395 400  
Thr Cys Asp Ile Asp Thr Asn Leu Ala Val Ile Glu Ser Leu Glu Lys  
405 410 415  
Gln Asp

<210> 984  
<211> 280  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 984  
Lys Asn Pro Leu Cys Tyr Glu Gln Lys Lys Leu Trp Gln Ile Asp Met  
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20 25 30  
Asn Ala Ile Thr Ala Phe Gly Leu Cys Cys Gly Leu Phe Ile Ile Phe  
35 40 45  
Lys Ser Val Leu Arg Thr Ser Ser Ser Val Glu Leu Phe His Arg Leu  
50 55 60  
Gln Gly Leu Ser Leu Leu Ile Ser Ala Met Ile Ala Asp Phe Ser  
65 70 75 80  
Asp Gly Ala Ile Ala Arg Ile Met Lys Ala Glu Ser Ala Phe Gly Ala  
85 90 95  
Gln Phe Asp Ser Leu Ser Asp Ala Val Thr Phe Gly Ile Ala Pro Pro  
100 105 110  
Leu Ile Ala Ile Lys Ser Leu Asp Gly Ile Tyr Val Gly Asn Phe Phe  
115 120 125  
Ser Ser Leu Leu Leu Ile Thr Ser Ile Ile Tyr Ser Leu Cys Gly Val  
130 135 140  
Leu Arg Leu Val Arg Tyr Asn Leu Phe Ser Gln Lys Thr Val Asp Val  
145 150 155 160  
Ser Lys Pro Tyr Cys Phe Ile Gly Leu Pro Ile Pro Ala Ala Ala Ala  
165 170 175  
Ser Ile Val Ser Leu Ala Leu Phe Leu Ala Ser Asp Phe Phe Pro Asp  
180 185 190  
Leu Pro Ala Gln Leu Arg Val Gly Leu Leu Ser Phe Ala Leu Leu Phe  
195 200 205  
Ile Gly Gly Leu Met Ile Ser Pro Trp Lys Phe Pro Gly Val Lys His  
210 215 220  
Phe Arg Phe Asn Val Ser Ser Phe Leu Leu Val Val Thr Ile Gly Leu  
225 230 235 240  
Ala Ala Cys Leu Phe Phe Ser Gly Leu Val Asp His Phe Val Glu Val  
245 250 255  
Phe Phe Leu Val Ser Trp Leu Tyr Thr Leu Val Gly Phe Pro Ile Phe  
260 265 270  
Ser Ile Ile Tyr Arg Lys Lys Ser  
275 280

<210> 985  
 <211> 1047  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 985  
 Gly Lys Val Met Val Glu Val Glu Glu Lys His Tyr Thr Ile Val Lys  
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 Arg Asn Gly Met Phe Val Pro Phe Asn Gln Asp Arg Ile Phe Gln Ala  
 20 25 30  
 Leu Glu Ala Ala Phe Arg Asp Thr Arg Ser Leu Glu Thr Ser Ser Pro  
 35 40 45  
 Leu Pro Lys Asp Leu Glu Glu Ser Ile Ala Gln Ile Thr His Lys Val  
 50 55 60  
 Val Lys Glu Val Leu Ala Lys Ile Ser Glu Gly Gln Val Val Thr Val  
 65 70 75 80  
 Glu Arg Ile Gln Asp Leu Val Glu Ser Gln Leu Tyr Ile Ser Gly Leu  
 85 90 95  
 Gln Asp Val Ala Arg Asp Tyr Ile Val Tyr Arg Asp Gln Arg Lys Ala  
 100 105 110  
 Glu Arg Gly Asn Ser Ser Ser Ile Ile Ala Ile Ile Arg Arg Asp Gly  
 115 120 125  
 Gly Ser Ala Lys Phe Asn Pro Met Lys Ile Ser Ala Ala Leu Glu Lys  
 130 135 140  
 Ala Phe Arg Ala Thr Leu Gln Ile Asn Gly Met Thr Pro Pro Ala Thr  
 145 150 155 160  
 Leu Ser Glu Ile Asn Asp Leu Thr Leu Arg Ile Val Glu Asp Val Leu  
 165 170 175  
 Ser Leu His Gly Glu Glu Ala Ile Asn Leu Glu Glu Ile Gln Asp Ile  
 180 185 190  
 Val Glu Lys Gln Leu Met Val Ala Gly Tyr Tyr Asp Val Ala Lys Asn  
 195 200 205  
 Tyr Ile Leu Tyr Arg Glu Ala Arg Ala Arg Ala Asn Lys Asp  
 210 215 220  
 Gln Asp Gly Gln Glu Glu Phe Val Pro Gln Glu Glu Thr Tyr Val Val  
 225 230 235 240  
 Gln Lys Glu Asp Gly Thr Thr Tyr Leu Leu Arg Lys Thr Asp Leu Glu  
 245 250 255  
 Lys Arg Phe Ser Trp Ala Cys Lys Arg Phe Pro Lys Thr Thr Asp Ser  
 260 265 270  
 Gln Leu Leu Ala Asp Met Ala Phe Met Asn Leu Tyr Ser Gly Ile Lys  
 275 280 285  
 Glu Asp Glu Val Thr Thr Ala Cys Ile Met Ala Ala Arg Ala Asn Ile  
 290 295 300  
 Glu Arg Glu Pro Asp Tyr Ala Phe Ile Ala Ala Glu Leu Leu Thr Ser  
 305 310 315 320  
 Ser Leu Tyr Glu Glu Thr Leu Gly Cys Ser Ser Gln Asp Pro Asn Leu  
 325 330 335  
 Ser Glu Ile His Lys Lys His Phe Lys Glu Tyr Ile Leu Asn Gly Glu  
 340 345 350  
 Glu Tyr Arg Leu Asn Pro Gln Leu Lys Asp Tyr Asp Leu Asp Ala Leu  
 355 360 365  
 Ser Glu Val Leu Asp Leu Ser Arg Asp Gln Gln Phe Ser Tyr Met Gly  
 370 375 380  
 Val Gln Asn Leu Tyr Asp Arg Tyr Phe Asn Leu His Glu Gly Arg Arg  
 385 390 395 400  
 Leu Glu Thr Ala Gln Ile Phe Trp Met Arg Val Ser Met Gly Leu Ala  
 405 410 415  
 Leu Asn Glu Gly Glu Gln Lys Asn Phe Trp Ala Ile Thr Phe Tyr Asn  
 420 425 430

Leu	Leu	Ser	Thr	Phe	Arg	Tyr	Thr	Pro	Ala	Thr	Pro	Thr	Leu	Phe	Asn
		435					440					445			
Ser	Gly	Met	Arg	His	Ser	Gln	Leu	Ser	Ser	Cys	Tyr	Leu	Ser	Thr	Val
	450					455					460				
Lys	Asp	Asp	Leu	Ser	His	Ile	Tyr	Lys	Val	Ile	Ser	Asp	Asn	Ala	Leu
465					470					475					480
Leu	Ser	Lys	Trp	Ala	Gly	Gly	Ile	Gly	Asn	Asp	Trp	Thr	Asp	Val	Arg
				485					490					495	
Ala	Thr	Gly	Ala	Val	Ile	Lys	Gly	Thr	Asn	Gly	Lys	Ser	Gln	Gly	Val
			500					505					510		
Ile	Pro	Phe	Ile	Lys	Val	Ala	Asn	Asp	Thr	Ala	Ile	Ala	Val	Asn	Gln
		515					520						525		
Gly	Gly	Lys	Arg	Lys	Gly	Ala	Met	Cys	Val	Tyr	Leu	Glu	Asn	Trp	His
	530				535						540				
Leu	Asp	Tyr	Glu	Asp	Phe	Leu	Glu	Leu	Arg	Lys	Asn	Thr	Gly	Asp	Glu
545					550					555					560
Arg	Arg	Arg	Thr	His	Asp	Ile	Asn	Thr	Ala	Ser	Trp	Ile	Pro	Asp	Leu
				565					570					575	
Phe	Phe	Lys	Arg	Leu	Glu	Lys	Lys	Gly	Met	Trp	Thr	Leu	Phe	Ser	Pro
			580					585					590		
Asp	Asp	Val	Pro	Gly	Leu	His	Glu	Ala	Tyr	Gly	Leu	Glu	Phe	Glu	Lys
		595					600					605			
Leu	Tyr	Glu	Glu	Tyr	Glu	Arg	Lys	Val	Glu	Ser	Gly	Glu	Ile	Arg	Leu
	610				615						620				
Tyr	Lys	Lys	Val	Glu	Ala	Glu	Val	Leu	Trp	Arg	Lys	Met	Leu	Ser	Met
625					630					635					640
Leu	Tyr	Glu	Thr	Gly	His	Pro	Trp	Ile	Thr	Phe	Lys	Asp	Pro	Ser	Asn
			645						650					655	
Ile	Arg	Ser	Asn	Gln	Asp	His	Val	Gly	Val	Val	Arg	Cys	Ser	Asn	Leu
			660					665					670		
Cys	Thr	Glu	Ile	Leu	Leu	Asn	Cys	Ser	Glu	Ser	Glu	Thr	Ala	Val	Cys
		675					680					685			
Asn	Leu	Gly	Ser	Ile	Asn	Leu	Val	Glu	His	Ile	Arg	Asn	Asp	Lys	Leu
	690					695					700				
Asp	Glu	Glu	Lys	Leu	Lys	Glu	Thr	Ile	Ser	Ile	Ala	Ile	Arg	Ile	Leu
705					710					715					720
Asp	Asn	Val	Ile	Asp	Leu	Asn	Phe	Tyr	Pro	Thr	Pro	Glu	Ala	Lys	Gln
			725						730					735	
Ala	Asn	Leu	Thr	His	Arg	Ala	Val	Gly	Leu	Gly	Val	Met	Gly	Phe	Gln
			740					745					750		
Asp	Val	Leu	Tyr	Glu	Leu	Asn	Ile	Ser	Tyr	Ala	Ser	Gln	Glu	Ala	Val
		755					760					765			
Glu	Phe	Ser	Asp	Glu	Cys	Ser	Glu	Ile	Ile	Ala	Tyr	Tyr	Ala	Ile	Leu
	770					775					780				
Ala	Ser	Ser	Leu	Leu	Ala	Lys	Glu	Arg	Gly	Thr	Tyr	Ala	Ser	Tyr	Ser
785					790					795					800
Gly	Ser	Lys	Trp	Asp	Arg	Gly	Tyr	Leu	Pro	Leu	Asp	Thr	Ile	Glu	Leu
			805						810					815	
Leu	Lys	Glu	Thr	Arg	Gly	Glu	His	Asn	Val	Leu	Val	Asp	Thr	Ser	Ser
			820					825					830		
Lys	Lys	Asp	Trp	Thr	Pro	Val	Arg	Asp	Thr	Ile	Gln	Lys	Tyr	Gly	Met
		835					840					845			
Arg	Asn	Ser	Gln	Val	Met	Ala	Ile	Ala	Pro	Thr	Ala	Thr	Ile	Ser	Asn
	850					855					860				
Ile	Ile	Gly	Val	Thr	Gln	Ser	Ile	Glu	Pro	Met	Tyr	Lys	His	Leu	Phe
865					870					875					880
Val	Lys	Ser	Asn	Leu	Ser	Gly	Glu	Phe	Thr	Ile	Pro	Asn	Thr	Tyr	Leu
			885						890					895	
Ile	Lys	Lys	Leu	Lys	Glu	Leu	Gly	Leu	Trp	Asp	Ala	Glu	Met	Leu	Asp
			900					905					910		

Asp	Leu	Lys	Tyr	Phe	Asp	Gly	Ser	Leu	Leu	Glu	Ile	Glu	Arg	Ile	Pro
	915						920					925			
Asn	His	Leu	Lys	Lys	Leu	Phe	Leu	Thr	Ala	Phe	Glu	Ile	Glu	Pro	Glu
	930					935					940				
Trp	Ile	Ile	Glu	Cys	Thr	Ser	Arg	Arg	Gln	Lys	Trp	Ile	Asp	Met	Gly
945					950					955					960
Val	Ser	Leu	Asn	Leu	Tyr	Leu	Ala	Glu	Pro	Asp	Gly	Lys	Lys	Leu	Ser
			965						970					975	
Asn	Met	Tyr	Leu	Thr	Ala	Trp	Lys	Lys	Gly	Leu	Lys	Thr	Thr	Tyr	Tyr
			980					985					990		
Leu	Arg	Ser	Gln	Ala	Ala	Thr	Ser	Val	Glu	Lys	Ser	Phe	Ile	Asp	Ile
		995					1000					1005			
Asn	Lys	Arg	Gly	Ile	Gln	Pro	Arg	Trp	Met	Lys	Asn	Lys	Ser	Ala	Ser
	1010				1015						1020				
Thr	Ser	Ile	Val	Val	Glu	Arg	Lys	Thr	Thr	Pro	Val	Cys	Ser	Met	Glu
1025					1030					1035					1040
Glu	Gly	Cys	Glu	Ser	Cys	Gln									
					1045										

<210> 986  
 <211> 380  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 986

Ile	Ser	Val	His	Lys	Tyr	Cys	Gly	Arg	Lys	Lys	Asn	Asn	Pro	Arg	Leu
1			5						10					15	
Phe	Asn	Gly	Arg	Arg	Leu	Arg	Ile	Leu	Ser	Ile	Thr	Glu	Lys	Arg	Gly
		20					25					30			
Ala	Lys	Met	Glu	Ala	Asp	Ile	Leu	Asp	Gly	Lys	Leu	Lys	Arg	Val	Glu
		35				40					45				
Val	Ser	Lys	Lys	Gly	Leu	Val	Asn	Cys	Asn	Gln	Val	Asp	Val	Asn	Gln
	50				55					60					
Leu	Val	Pro	Ile	Lys	Tyr	Lys	Trp	Ala	Trp	Glu	His	Tyr	Leu	Asn	Gly
65				70					75					80	
Cys	Ala	Asn	Asn	Trp	Leu	Pro	Thr	Glu	Val	Pro	Met	Ala	Arg	Asp	Ile
			85					90				95			
Glu	Leu	Trp	Lys	Ser	Asp	Glu	Leu	Ser	Glu	Asp	Glu	Arg	Arg	Val	Ile
			100				105					110			
Leu	Leu	Asn	Leu	Gly	Phe	Phe	Ser	Thr	Ala	Glu	Ser	Leu	Val	Gly	Asn
		115					120					125			
Asn	Ile	Val	Leu	Ala	Ile	Phe	Lys	His	Ile	Thr	Asn	Pro	Glu	Ala	Arg
	130				135						140				
Gln	Tyr	Leu	Leu	Arg	Gln	Ala	Phe	Glu	Glu	Ala	Val	His	Thr	His	Thr
145				150					155					160	
Phe	Leu	Tyr	Ile	Cys	Glu	Ser	Leu	Gly	Leu	Asp	Glu	Gly	Glu	Val	Phe
			165					170				175			
Asn	Ala	Tyr	Asn	Glu	Arg	Ala	Ser	Ile	Arg	Ala	Lys	Asp	Asp	Phe	Gln
			180				185					190			
Met	Thr	Leu	Thr	Val	Asp	Val	Leu	Asp	Pro	Asn	Phe	Ser	Val	Gln	Ser
		195					200					205			
Ser	Glu	Gly	Leu	Gly	Gln	Phe	Ile	Lys	Asn	Leu	Val	Gly	Tyr	Tyr	Ile
	210				215						220				
Ile	Met	Glu	Gly	Ile	Phe	Phe	Tyr	Ser	Gly	Phe	Val	Met	Ile	Leu	Ser
225				230					235					240	
Phe	His	Arg	Gln	Asn	Lys	Met	Thr	Gly	Ile	Gly	Glu	Gln	Tyr	Gln	Tyr
			245					250					255		
Ile	Leu	Arg	Asp	Glu	Thr	Ile	His	Leu	Asn	Phe	Gly	Ile	Asp	Leu	Ile
			260				265					270			
Asn	Gly	Ile	Lys	Glu	Glu	Asn	Pro	Glu	Val	Trp	Thr	Thr	Glu	Leu	Gln
		275					280					285			



Glu	Glu	Ile	Val	Ala	Leu	Ile	Glu	Lys	Ala	Val	Glu	Leu	Glu	Ile	Glu
	290					295					300				
Tyr	Ala	Lys	Asp	Cys	Leu	Pro	Arg	Gly	Ile	Leu	Gly	Leu	Arg	Ser	Ser
305					310					315					320
Met	Phe	Ile	Asp	Tyr	Val	Arg	His	Ile	Ala	Asp	Arg	Arg	Leu	Glu	Arg
			325						330					335	
Ile	Gly	Leu	Lys	Pro	Ile	Tyr	His	Ser	Arg	Asn	Pro	Phe	Pro	Trp	Met
			340					345					350		
Ser	Glu	Thr	Met	Asp	Leu	Asn	Lys	Glu	Lys	Asn	Phe	Phe	Glu	Thr	Arg
		355					360					365			
Val	Thr	Glu	Tyr	Gln	Thr	Ala	Gly	Asn	Leu	Ser	Trp				
	370					375					380				

<210> 987  
 <211> 228  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 987

Phe	Leu	Leu	Phe	Met	Lys	Pro	Gln	Asp	Leu	Ser	Pro	Pro	Phe	Leu	Trp
1				5					10					15	
Lys	Glu	Arg	Arg	Pro	Cys	Ile	Gln	Asp	Gly	Val	Leu	Tyr	Val	Pro	Arg
			20					25					30		
His	Tyr	Phe	Glu	His	Gln	Asn	Phe	Ser	Thr	Ser	Tyr	His	Gln	Glu	Phe
		35				40						45			
Phe	Gln	Asn	His	Thr	Ser	Ile	Ala	Cys	Glu	Leu	Cys	Ser	Gly	Asn	Gly
	50					55					60				
Asp	Trp	Val	Val	Ala	Gln	Ala	Gln	Lys	Asp	Pro	Gln	Val	Leu	Trp	Ile
65				70						75				80	
Ala	Val	Glu	Gln	Arg	Phe	Asp	Arg	Val	Arg	Lys	Ile	Trp	Ser	Lys	Met
				85					90					95	
Ile	Asn	His	Gln	Ile	Gln	Asn	Leu	Arg	Ile	Val	Cys	Gly	Thr	Ala	Glu
			100					105					110		
Thr	Phe	Phe	Gln	Tyr	Tyr	Val	Pro	Asp	Gln	Phe	Leu	Gln	Arg	Leu	Val
		115				120						125			
Val	Asn	Phe	Pro	Asp	Pro	Trp	Pro	Lys	Met	Arg	His	Arg	Lys	His	Arg
	130					135					140				
Leu	Leu	Gln	Pro	Ser	Phe	Val	Gln	Glu	Ile	Ser	Arg	Ser	Leu	Gln	Asp
145					150					155				160	
Ser	Ala	Val	Phe	Ala	Leu	Ala	Thr	Asp	Asp	Lys	Thr	Tyr	Leu	Leu	Glu
			165						170				175		
Ser	Ile	Glu	Ala	Leu	Gln	Thr	His	Leu	Ala	Pro	Arg	Met	Glu	Thr	Pro
			180					185					190		
Tyr	Tyr	Ile	Lys	Met	Thr	Asp	Thr	Tyr	Gly	Asn	Ser	Trp	Phe	Glu	Asn
	195					200						205			
Leu	Trp	Arg	Thr	Lys	Gly	Gln	Glu	Ile	Phe	Tyr	Thr	Glu	Phe	Ile	Lys
	210					215						220			
Lys	Ala	Gly	Ile												
225															

<210> 988  
 <211> 211  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 988

Leu	Glu	Asn	Gly	Ile	Phe	Ala	Ile	Gly	Phe	Phe	Met	Phe	Ala	Tyr	Arg
1				5					10					15	
Thr	Leu	Leu	Thr	His	Asn	Val	Val	Gln	Val	Ser	His	Glu	Ile	Phe	Lys
			20					25					30		

Thr Thr Val Val Pro Gly Asp Thr Val Ile Asp Ala Thr Cys Gly Asn  
           35                  40                  45  
 Gly Asn Asp Ser Leu Phe Leu Ala Arg Leu Leu Gln Gly Glu Gly Arg  
       50                  55                  60  
 Leu Val Val Tyr Asp Ile Gln Lys Glu Ala Leu Ser Asn Ala Leu Leu  
   65                  70                  75                  80  
 Leu Phe Glu Thr His Leu Ser Glu Gln Glu Arg Ser Val Ile Glu Met  
                   85                  90                  95  
 Lys Glu Gln Ser His Glu His Ile Leu Glu Lys Asp Val Lys Leu Ile  
                   100                  105                  110  
 His Tyr Asn Leu Gly Tyr Leu Pro Lys Gly Asn Lys Glu Ile Thr Thr  
           115                  120                  125  
 Leu Ala Arg Thr Thr Glu Ile Ser Leu Glu Tyr Ala Leu Asn Ile Val  
       130                  135                  140  
 Arg Pro Asp Gly Leu Ile Thr Val Val Cys Tyr Pro Gly His Pro Glu  
   145                  150                  155                  160  
 Gly Glu Lys Glu Thr His Ser Val Glu Ser Leu Ala Gln Arg Leu His  
                   165                  170                  175  
 Pro Lys Glu Trp Cys Val Ser Ser Phe Tyr Val Ala Asn Arg Cys Arg  
                   180                  185                  190  
 Ala Pro Arg Leu Phe Ile Phe Gln Arg Gln Gly Ser Glu Ser Ser Val  
       195                  200                  205  
 Asp Lys Gly  
       210

<210> 989

<211> 319

<212> PRT

<213> Chlamydia pneumoniae

<400> 989

Lys Phe Phe Ile Asn Leu Ile Asn Leu Asp Gln Gly Ile Leu Lys Met  
   1                  5                  10                  15  
 Lys Glu Ala Ala Pro Met His Phe Pro Phe Pro Val Arg Arg Ser Val  
                   20                  25                  30  
 Trp Leu Asn Arg Tyr Ser Thr Phe Arg Ile Gly Gly Pro Ala Asn Tyr  
       35                  40                  45  
 Phe Lys Ala Ile His Thr Ile Glu Glu Ala Arg Glu Val Ile Arg Phe  
   50                  55                  60  
 Leu His Ser Ile Asn Tyr Pro Phe Leu Ile Ile Gly Lys Gly Ser Asn  
   65                  70                  75                  80  
 Cys Leu Phe Asp Asp Arg Gly Phe Asp Gly Phe Val Leu Tyr Asn Ala  
                   85                  90                  95  
 Ile Tyr Gly Lys Gln Phe Leu Glu Asp Ala Arg Ile Lys Ala Tyr Ser  
                   100                  105                  110  
 Gly Leu Ser Phe Ala Ala Leu Gly Lys Ala Thr Ala Tyr Asn Gly Tyr  
       115                  120                  125  
 Ser Gly Leu Glu Phe Ala Ala Gly Ile Pro Gly Ser Val Gly Gly Ala  
       130                  135                  140  
 Ile Phe Met Asn Ala Gly Thr Asn Glu Ser Asp Ile Ser Ser Val Val  
   145                  150                  155                  160  
 Arg Asn Val Glu Thr Ile Asn Ser Glu Gly Glu Leu Cys Ser Tyr Ser  
                   165                  170                  175  
 Val Glu Glu Leu Glu Leu Ser Tyr Arg Ser Ser Arg Phe His Arg Gln  
                   180                  185                  190  
 Gln Glu Phe Ile Leu Ser Ala Thr Phe Gln Leu Ser Lys Lys Gln Val  
       195                  200                  205  
 Ser Ala Asp His Ser Lys Ser Ile Leu Gln His Arg Leu Met Thr Gln  
       210                  215                  220  
 Pro Tyr Thr Gln Pro Ser Ala Gly Cys Ile Phe Arg Asn Pro Glu Gly  
   225                  230                  235                  240

Thr Ser Ala Gly Lys Leu Ile Asp Ala Ala Gly Leu Lys Gly Leu Ala  
                             245                            250                            255  
 Ile Gly Gly Ala Gln Ile Ser Pro Leu His Ala Asn Phe Ile Ile Asn  
                             260                            265                            270  
 Thr Gly Lys Ala Thr Ser Asp Glu Val Lys Gln Leu Ile Ala Ile Ile  
                             275                            280                            285  
 Gln Ser Thr Leu Lys Thr Gln Gly Ile Asp Leu Glu His Glu Ile Arg  
                             290                            295                            300  
 Ile Ile Pro Tyr Gln Pro Lys Ile His Ser Pro Val Ser Glu Lys  
 305                            310                            315

<210> 990  
 <211> 179  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 990  
 Leu Arg Thr Ser Leu Ala Val Lys Cys Val Leu Leu Thr Ile Phe Trp  
 1                            5                            10                            15  
 Leu Leu Val Met Ala Thr Leu Ser Pro Glu Lys Phe Ser Gly Ser Pro  
                             20                            25                            30  
 Ile Ser Ile Ser Lys Glu Phe Pro Gln Gln Lys Met Arg Glu Ile Ile  
                             35                            40                            45  
 Leu Gln Met Leu Tyr Ala Leu Asp Met Ala Pro Ser Ala Glu Asp Ser  
 50                            55                            60  
 Leu Val Pro Leu Leu Met Ser Gln Thr Ala Val Ser Gln Lys His Val  
 65                            70                            75                            80  
 Leu Val Ala Leu Asn Gln Thr Lys Ser Ile Leu Glu Lys Ser Gln Glu  
                             85                            90                            95  
 Leu Asp Leu Ile Ile Gly Asn Ala Leu Lys Asn Lys Ser Phe Asp Ser  
                             100                            105                            110  
 Leu Asp Leu Val Glu Lys Asn Val Leu Arg Leu Thr Leu Phe Glu His  
                             115                            120                            125  
 Phe Tyr Ser Pro Pro Ile Asn Lys Ala Ile Leu Ile Ala Glu Ala Ile  
                             130                            135                            140  
 Arg Leu Val Lys Lys Phe Ser Tyr Ser Glu Ala Cys Pro Phe Ile Gln  
 145                            150                            155                            160  
 Ala Ile Leu Asn Asp Ile Phe Thr Asp Ser Ser Leu Asn Glu Asn Ser  
                             165                            170                            175  
 Leu Ser Ile

<210> 991  
 <211> 187  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 991  
 Ser Val Ala Leu Asn Phe Lys Ile Asn Arg Gln Ile Arg Ala Pro Lys  
 1                            5                            10                            15  
 Val Arg Leu Ile Gly Ser Ala Gly Glu Gln Leu Gly Ile Leu Ala Ile  
                             20                            25                            30  
 Lys Asp Ala Leu Asp Leu Ala Arg Glu Ala Gly Leu Asp Leu Val Glu  
                             35                            40                            45  
 Val Ala Ser Asn Ser Glu Pro Pro Val Cys Lys Ile Met Asp Tyr Gly  
 50                            55                            60  
 Lys Tyr Arg Tyr Gly Leu Thr Lys Lys Glu Lys Asp Ser Lys Lys Ala  
 65                            70                            75                            80  
 Gln His Gln Val Arg Ile Lys Glu Val Lys Leu Lys Pro Asn Ile Asp  
                             85                            90                            95

Glu	Asn	Asp	Phe	Ser	Thr	Lys	Leu	Lys	Gln	Ala	Arg	Thr	Phe	Val	Glu
			100					105					110		
Lys	Gly	Asn	Lys	Val	Lys	Ile	Thr	Cys	Met	Phe	Arg	Gly	Arg	Glu	Leu
		115					120					125			
Ala	Tyr	Pro	Glu	His	Gly	Phe	Lys	Val	Val	Gln	Lys	Met	Ser	Gln	Gly
	130					135					140				
Leu	Glu	Asp	Ile	Gly	Phe	Val	Glu	Ala	Glu	Pro	Lys	Leu	Ala	Gly	Arg
145					150					155					160
Ser	Leu	Ile	Cys	Val	Val	Ala	Pro	Gly	Thr	Val	Lys	Thr	Lys	Lys	Lys
			165						170					175	
Gln	Glu	Lys	Ser	His	Ala	Gln	Asp	Glu	Asn	Gln					
			180					185							

<210> 992  
 <211> 73  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 992

Lys	Gln	Arg	Lys	Asn	Arg	Lys	Ser	Leu	Met	Pro	Lys	Met	Lys	Thr	Asn
1				5					10					15	
Lys	Ser	Val	Ser	Ala	Arg	Phe	Lys	Leu	Thr	Ala	Ser	Gly	Gln	Leu	Lys
			20					25					30		
Arg	Thr	Arg	Pro	Gly	Lys	Arg	His	Lys	Leu	Ser	Lys	Lys	Ser	Ser	Gln
		35					40					45			
Glu	Lys	Arg	Asn	Leu	Ser	Lys	Gln	Pro	Leu	Val	Asp	Lys	Gly	Gln	Val
	50					55					60				
Gly	Met	Tyr	Lys	Arg	Met	Met	Leu	Val							
65						70									

<210> 993  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 993

Gly	Lys	Leu	Val	Met	Val	Arg	Ala	Thr	Gly	Ser	Val	Ala	Ser	Arg	Arg
1				5					10					15	
Arg	Arg	Lys	Arg	Ile	Leu	Lys	Gln	Ala	Lys	Gly	Phe	Trp	Gly	Asp	Arg
			20					25					30		
Lys	Gly	His	Ile	Arg	Gln	Ser	Arg	Ser	Ser	Val	Met	Arg	Ala	Met	Ala
		35					40					45			
Phe	Asn	Tyr	Met	His	Arg	Lys	Asp	Arg	Lys	Gly	Asp	Phe	Arg	Ser	Leu
	50					55					60				
Trp	Ile	Ala	Arg	Leu	Asn	Val	Ala	Ser	Arg	Ile	His	Ser	Leu	Ser	Tyr
65					70					75				80	
Ser	Arg	Leu	Ile	Asn	Gly	Leu	Lys	Cys	Ala	Asn	Ile	Ser	Leu	Asn	Arg
			85						90					95	
Lys	Met	Leu	Ser	Glu	Ile	Ala	Ile	His	Asn	Pro	Glu	Gly	Phe	Ala	Glu
			100					105					110		
Ile	Ala	Asn	Gln	Ala	Lys	Lys	Ala	Leu	Glu	Ala	Thr	Val			
		115					120					125			

<210> 994  
 <211> 352  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 994

Lys	Ser	Phe	Gly	Ser	His	Ser	Leu	Gly	Ile	Arg	Ile	Ser	Met	Glu	Met
1				5					10					15	

Lys Glu Glu Ile Glu Ala Val Lys Gln Gln Phe His Ser Glu Leu Asp  
                           20                          25                          30  
 Gln Val Asn Ser Ser Gln Ala Leu Ala Asp Leu Lys Val Arg Tyr Leu  
                           35                          40                          45  
 Gly Lys Lys Gly Ile Phe Arg Ser Phe Ser Glu Lys Leu Lys Gln Cys  
                           50                          55                          60  
 Thr Asp Lys Ala Lys Leu Gly Ser Leu Ile Asn Asp Phe Lys Thr Tyr  
   65                          70                          75                          80  
 Val Glu Asp Leu Leu Gln Glu Lys Ser Leu Val Leu Leu Ala Ser Glu  
                           85                          90                          95  
 Gln Ala Glu Ala Phe Ser Lys Glu Lys Ile Asp Ser Ser Leu Pro Gly  
                           100                          105                          110  
 Asp Ser Gln Pro Ser Gly Gly Arg His Ile Leu Lys Ser Ile Leu Asp  
                           115                          120                          125  
 Asp Val Val Asp Ile Phe Val His Leu Gly Phe Cys Val Arg Glu Ala  
                           130                          135                          140  
 Pro Asn Ile Glu Ser Glu Ala Asn Asn Phe Thr Leu Leu Asn Phe Thr  
   145                          150                          155                          160  
 Glu Asp His Pro Ala Arg Gln Met His Asp Thr Phe Tyr Leu Asn Ala  
                           165                          170                          175  
 Thr Thr Val Leu Arg Thr His Thr Ser Asn Val Gln Ala Arg Glu Leu  
                           180                          185                          190  
 Lys Lys Gln Gln Pro Pro Ile Lys Val Val Ala Pro Gly Leu Cys Phe  
                           195                          200                          205  
 Arg Asn Glu Asp Ile Ser Ala Arg Ser His Val Leu Phe His Gln Val  
                           210                          215                          220  
 Glu Ala Phe Tyr Val Asp His Asn Val Thr Phe Ser Asp Leu Thr Ala  
   225                          230                          235                          240  
 Ile Leu Ser Ala Phe Tyr His Ser Phe Phe Gln Arg Lys Thr Glu Leu  
                           245                          250                          255  
 Arg Phe Arg His Ser Tyr Phe Pro Phe Val Glu Pro Gly Ile Glu Val  
                           260                          265                          270  
 Asp Val Ser Cys Glu Cys Cys Gly Lys Gly Cys Ala Leu Cys Lys His  
                           275                          280                          285  
 Thr Gly Trp Leu Glu Val Ala Gly Ala Gly Met Ile His Pro Gln Val  
   290                          295                          300  
 Leu Arg Asn Gly Asn Val Asp Pro Glu Ile Tyr Ser Gly Tyr Ala Val  
   305                          310                          315                          320  
 Gly Met Gly Ile Glu Arg Leu Ala Met Leu Lys Tyr Gly Val Ser Asp  
                           325                          330                          335  
 Ile Arg Leu Phe Ser Glu Asn Asp Leu Arg Phe Leu Gln Gln Phe Ser  
                           340                          345                          350

<210> 995

<211> 690

<212> PRT

<213> Chlamydia pneumoniae

<400> 995

Leu Phe Trp Phe His Arg Gly Gly Arg Met Lys Arg Ser Arg Arg Asn  
   1                          5                          10                          15  
 Phe Glu Gln Ala Leu Glu Asn Leu Glu Lys Leu Lys Glu Ile Ser Leu  
                           20                          25                          30  
 Ala Thr Ser Asn Asp Ser Tyr Leu Asn Asn Pro Ala Arg Phe Asn Gln  
                           35                          40                          45  
 Arg Lys Gln Thr Gly Ser Ser Val Met Glu Met Lys Glu Ala Leu Lys  
                           50                          55                          60  
 Asn Val Glu Asn Tyr Leu Leu Glu Ile Ser Cys Val Ser Lys Ser His  
   65                          70                          75                          80  
 Ala Asp Lys Ala Leu Lys Glu Ser Asp Phe Leu Ile Ala Gly Val Gln  
                           85                          90                          95

Asn	Val	Phe	Ser	Phe	Leu	Glu	Asn	Gln	Glu	Asp	Leu	Tyr	Lys	Ser	Leu	100	105	110
Leu	Asp	Glu	Tyr	Ser	Glu	Val	Thr	Lys	Ala	Tyr	Asp	Glu	Val	Lys	Lys	115	120	125
Asn	Leu	Lys	Glu	Val	Pro	Thr	Tyr	Asp	Leu	Ser	Thr	Asp	Glu	Glu	Thr	130	135	140
Glu	Glu	His	Lys	Glu	Pro	Glu	Cys	Phe	Leu	Asn	Asn	Leu	Val	Glu	Val	145	150	155
Lys	Arg	Asp	Arg	Ser	Tyr	Glu	Leu	Phe	Tyr	Met	Leu	Asp	Glu	Gln	Asp	165	170	175
Lys	Arg	Phe	Tyr	Asn	Asp	Ala	Leu	Val	Gln	Ile	Ile	Tyr	Lys	Gln	Asn	180	185	190
Lys	Leu	His	Glu	Thr	Val	Asn	Glu	Gly	Asp	Pro	Leu	Thr	Lys	Thr	Leu	195	200	205
Leu	Trp	Asn	Ser	Glu	Glu	Val	Lys	Asn	Ile	Ala	Ser	Ser	Leu	Val	Ile	210	215	220
Val	Asn	Asp	Met	Pro	Leu	Arg	Leu	Phe	Tyr	Gln	Arg	Ala	Leu	Ser	His	225	230	235
Leu	Asp	Ile	Glu	Ala	Val	Val	Lys	Val	His	Asn	Ala	Val	Met	Ala	Leu	245	250	255
Phe	Phe	Ser	Arg	Tyr	Glu	Ala	Thr	Met	Val	Phe	Lys	Ser	Pro	Lys	Lys	260	265	270
His	Asn	Ile	Trp	Tyr	Phe	Asn	Asp	Phe	Leu	Leu	Phe	Leu	Arg	Glu	Ala	275	280	285
Trp	Lys	Asp	Leu	Asn	Asn	Asn	Val	Ile	Asp	Ser	Gln	Glu	Arg	Lys	Gln	290	295	300
Thr	Lys	Leu	Leu	Ala	Ser	Ala	Leu	Ser	Leu	Gly	Ile	Phe	Glu	Ser	Lys	305	310	315
Leu	Val	Phe	Glu	Glu	Ala	Ser	Arg	Tyr	Leu	Tyr	Phe	Asn	Ile	Gln	Thr	325	330	335
Lys	Leu	Glu	Asn	Ala	Asn	Gly	Lys	Lys	Pro	Leu	Ser	Pro	Gly	Gln	Tyr	340	345	350
Leu	Thr	Asp	Ala	Tyr	Glu	Glu	Leu	His	Arg	Leu	Ile	Ser	Lys	Tyr	Pro	355	360	365
Asn	Gly	Pro	Leu	Phe	Lys	Ala	Met	Asp	Arg	Val	Leu	Glu	His	Glu	Ser	370	375	380
Arg	Pro	Tyr	Asp	Pro	Met	Ile	Leu	Gly	Ile	Leu	Pro	Ser	Leu	Glu	Gly	385	390	395
Thr	Leu	Lys	Leu	His	Gly	Lys	Ser	Ile	Asp	Ile	Ile	Arg	Ser	Pro	Ser	405	410	415
Pro	Val	Thr	Gln	Ser	Ser	Ile	Leu	Tyr	Ala	Asn	Cys	Asn	Glu	Glu	Phe	420	425	430
Leu	Gly	Phe	Leu	Asn	Ala	Lys	Ala	His	Arg	Ser	Glu	Val	Thr	Leu	Val	435	440	445
Leu	Asn	Ile	Gln	Asn	Arg	Ile	Ser	Arg	Lys	Glu	Arg	Ala	Arg	Ser	Arg	450	455	460
Val	Ile	Glu	Glu	Ala	Leu	Glu	Gln	Glu	Glu	His	Ala	Pro	Tyr	Val	His	465	470	475
Ala	Phe	Ser	Phe	Pro	Glu	Pro	Glu	Glu	Leu	Leu	Gln	Asn	Leu	Glu	Ser	485	490	495
Ile	His	Gly	Asp	Ile	Glu	Thr	Phe	Ala	Asp	Phe	Phe	Ser	Ile	Leu	Gln	500	505	510
Glu	Glu	Phe	His	Lys	Pro	Leu	Leu	Ala	Ser	Ser	Phe	Phe	Leu	Thr	Lys	515	520	525
Glu	Leu	Lys	Glu	Phe	Val	Gly	Ser	Phe	Leu	Lys	Glu	Lys	Leu	Thr	Ala	530	535	540
Leu	Lys	Asp	Ile	Phe	Phe	Ala	Lys	Lys	Lys	Ile	Leu	Phe	Arg	Asn	Asp	545	550	555
Lys	Leu	Leu	Leu	Leu	His	Leu	Leu	Ser	Tyr	Leu	Ile	Val	Phe	Lys	Leu	565	570	575

Ile Glu Arg Thr Asn Pro Asn Ser Ile Val Val Val Ser Lys Asp Gly  
 580 585 590  
 Leu Asp Tyr Val Ser Val Phe Ile Ala Gly Phe Ala Phe Phe Ser Arg  
 595 600 605  
 Glu Ala Phe Trp Asp Glu His Ser Leu Lys Leu Leu Thr Asn Val  
 610 615 620  
 Leu Ser Pro Thr Leu Val Ala Arg Asp Arg Leu Val Phe Val Ser His  
 625 630 635 640  
 Ile Glu Leu Leu Ser Lys Phe Val Asn Cys Leu Lys Lys Asn Arg Gln  
 645 650 655  
 Gly Phe Ser Ser Leu Lys Ser Phe Phe Lys Asp Asp Ile Glu Gly Trp  
 660 665 670  
 Glu Phe Thr Gly Tyr Leu His Glu Leu Thr Glu Val Ser His Lys His  
 675 680 685  
 Asn Leu  
 690

<210> 996  
 <211> 367  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 996  
 Arg Met Leu Ile Trp Lys Arg His Leu Leu Thr Arg Phe Trp Phe Ala  
 1 5 10 15  
 Leu Thr Ser Leu Leu Val Leu Ala Leu Ile Phe Tyr Ala Ser Ile His  
 20 25 30  
 His Ser Leu His Thr Leu Lys Gly Ala Ser Thr Ala Ala Ser Gly Ala  
 35 40 45  
 Ser Val Lys Leu Ser Ile Leu Tyr Tyr Leu Ala Gln Ile Ser Leu Lys  
 50 55 60  
 Ala Glu Phe Leu Met Pro Gln Leu Val Ala Val Ala Thr Thr Ser Thr  
 65 70 75 80  
 Leu Phe Ala Met Gln Asn Lys Arg Glu Ile Ile Leu Leu Gln Ala Ser  
 85 90 95  
 Gly Leu Ser Leu Lys Ser Leu Met His Pro Leu Leu Leu Ser Gly Ala  
 100 105 110  
 Val Ile Met Met Val Leu Tyr Ala Asn Phe Gln Trp Leu His Pro Ile  
 115 120 125  
 Cys Glu Lys Ile Ser Ile Thr Lys Glu Asn Met Asp Arg Gly Thr Thr  
 130 135 140  
 Asp Lys Glu Gln Gly Lys Ile Pro Ala Leu Tyr Leu Lys Asp Gln Thr  
 145 150 155 160  
 Val Leu Leu Tyr Ser Ser Ile Glu Pro Lys Thr Leu Thr Leu Asn Asn  
 165 170 175  
 Val Phe Trp Ile Lys Asp Pro Lys Thr Ile Tyr Thr Met Glu Lys Leu  
 180 185 190  
 Ala Phe Thr Thr Leu Ser Leu Pro Ile Gly Leu Asn Val Thr Gln Phe  
 195 200 205  
 Phe Ala Asn Asp Ser Glu Asn Leu Glu Leu Lys Glu Phe Phe Asp Met  
 210 215 220  
 Lys Glu Phe Pro Glu Ile Glu Phe Asn Phe Tyr Glu Asn Pro Phe Ser  
 225 230 235 240  
 Lys Leu Phe Ser Ala Gly Asn Lys Asn Arg Leu Ser Glu Phe Phe Lys  
 245 250 255  
 Ala Ile Pro Trp Asn Ala Thr Gly Leu Gly Leu Ser Thr Gln Val Pro  
 260 265 270  
 Gln Arg Ile Leu Ser Leu Leu Ala Gln Phe Tyr Tyr Val Leu Ile Ser  
 275 280 285  
 Pro Leu Ala Cys Met Ala Ala Ile Ile Leu Ser Ala Tyr Leu Cys Leu  
 290 295 300

Arg	Phe	Ser	Arg	Thr	Pro	Thr	Val	Thr	Leu	Ala	Tyr	Leu	Ile	Pro	Leu
305					310					315					320
Gly	Thr	Val	Asn	Ile	Phe	Phe	Val	Phe	Leu	Lys	Ala	Gly	Ile	Val	Leu
			325						330					335	
Ala	Ser	Ser	Ser	Val	Leu	Pro	Thr	Leu	Pro	Val	Met	Ala	Phe	Pro	Leu
			340						345				350		
Ile	Val	Leu	Phe	Leu	Leu	Thr	Asn	Tyr	Ala	Tyr	Ala	Lys	Leu	Gln	
		355					360					365			

<210> 997  
 <211> 358  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 997

Ala	Met	Pro	Ile	Leu	Trp	Lys	Val	Leu	Ile	Phe	Arg	Tyr	Leu	Lys	Thr
1				5					10					15	
Ala	Ala	Phe	Cys	Thr	Leu	Ser	Leu	Ile	Cys	Ile	Ser	Ile	Ile	Ser	Ser
			20					25					30		
Leu	Gln	Glu	Ile	Val	Ala	Tyr	Ile	Ala	Lys	Asp	Val	Pro	Tyr	Asp	Thr
		35					40					45			
Val	Leu	Arg	Leu	Met	Ala	Tyr	Gln	Ile	Pro	Tyr	Leu	Leu	Pro	Phe	Ile
	50					55					60				
Leu	Pro	Gly	Ser	Cys	Phe	Val	Ser	Ala	Phe	Ser	Leu	Phe	Arg	Lys	Leu
65					70				75					80	
Ser	Asp	Asn	Asn	His	Met	Thr	Phe	Leu	Arg	Ala	Ser	Gly	Ala	Ser	Gln
				85					90					95	
Ser	Ile	Ile	Met	Phe	Pro	Val	Leu	Met	Val	Ser	Gly	Ala	Ile	Cys	Cys
			100					105					110		
Leu	Asn	Phe	Tyr	Thr	Cys	Ser	Glu	Leu	Ala	Ser	Ile	Cys	Arg	Tyr	Gln
	115						120					125			
Thr	Cys	Lys	Glu	Ile	Ala	Asn	Met	Ala	Met	Thr	Ser	Pro	Ala	Leu	Leu
	130					135						140			
Leu	Gln	Thr	Leu	Gln	Lys	Lys	Glu	Asn	Asn	Arg	Ile	Phe	Ile	Ala	Val
145					150					155					160
Asp	His	Cys	Ala	Lys	Ser	Lys	Phe	Asp	Asn	Val	Ile	Val	Ala	Leu	Lys
				165					170					175	
Gly	Asn	Asn	Glu	Ile	Ser	His	Val	Gly	Ile	Ile	Lys	Ser	Ile	Ile	Pro
			180					185					190		
Asp	Thr	Thr	Lys	Asp	Thr	Val	Lys	Ala	Lys	Asp	Val	Val	Phe	Ile	Ser
		195					200					205			
Lys	Leu	Pro	Asp	Ser	Leu	Thr	Glu	Ser	Ser	Ser	Pro	Ser	Ser	Gln	Arg
	210					215					220				
Phe	Tyr	Ile	Glu	Thr	Leu	Asp	Glu	Leu	Leu	Ile	Pro	Lys	Ile	Thr	Ser
225					230					235					240
Thr	Leu	Phe	Ala	Gly	Lys	Ser	Tyr	Leu	Lys	Thr	Arg	Thr	Asp	Tyr	Leu
				245					250					255	
Pro	Trp	Lys	Gln	Leu	Val	Lys	Gln	Ser	Leu	Lys	His	Ser	His	Leu	Pro
			260					265					270		
Glu	Thr	Leu	Arg	Arg	Val	Ala	Ile	Gly	Phe	Leu	Cys	Ile	Thr	Leu	Thr
	275						280						285		
Tyr	Ala	Gly	Met	Ile	Leu	Gly	Ile	His	Lys	Pro	Arg	Phe	Arg	Lys	Ser
	290					295					300				
Ile	Ala	Leu	Tyr	Phe	Ile	Phe	Pro	Ile	Leu	Asp	Leu	Ile	Leu	Leu	Ile
305					310					315					320
Val	Gly	Lys	Asn	Thr	Lys	Asn	Leu	Pro	Leu	Ala	Phe	Met	Leu	Phe	Val
				325					330					335	
Phe	Pro	Gln	Leu	Val	Ser	Trp	Val	Val	Phe	Ala	Ala	Arg	Ala	Tyr	Arg
			340					345					350		
Glu	Ser	Arg	Gly	Tyr	Ala										
			355												



<210> 998  
 <211> 322  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 998  
 Ala Tyr Lys Met Val Leu Ser Ser Asp Leu Leu Arg Asp Asp Lys Gln  
 1 5 10 15  
 Leu Asp Leu Phe Phe Ala Ser Leu Asp Val Lys Lys Arg Tyr Leu Leu  
 20 25 30  
 Ala Leu Ser Gly Gly Ser Asp Ser Leu Phe Leu Phe Tyr Leu Leu Lys  
 35 40 45  
 Glu Arg Gly Val Ser Phe Thr Ala Val His Ile Asp His Gly Trp Arg  
 50 55 60  
 Ser Thr Ser Ala Gln Glu Ala Lys Glu Leu Glu Glu Leu Cys Ala Arg  
 65 70 75 80  
 Glu Gly Val Pro Phe Val Leu Tyr Thr Leu Thr Ala Glu Glu Gln Gly  
 85 90 95  
 Asp Lys Asp Leu Glu Asn Gln Ala Arg Lys Lys Arg Tyr Ala Phe Leu  
 100 105 110  
 Tyr Glu Ser Tyr Arg Gln Leu Asp Ala Gly Gly Ile Phe Leu Ala His  
 115 120 125  
 His Ala Asn Asp Gln Ala Glu Thr Val Leu Lys Arg Leu Leu Glu Ser  
 130 135 140  
 Ala His Leu Thr Asn Leu Lys Ala Met Ala Glu Arg Ser Tyr Val Glu  
 145 150 155 160  
 Asp Val Leu Leu Leu Arg Pro Leu Leu His Ile Pro Lys Ser Ser Leu  
 165 170 175  
 Lys Glu Ala Leu Asp Ala Arg Gly Ile Ser Tyr Leu Gln Asp Pro Ser  
 180 185 190  
 Asn Glu Asp Glu Arg Tyr Leu Arg Ala Arg Met Arg Lys Lys Leu Phe  
 195 200 205  
 Pro Trp Leu Glu Glu Val Phe Gly Lys Asn Ile Thr Phe Pro Leu Leu  
 210 215 220  
 Thr Leu Gly Glu Glu Ser Ala Glu Leu Ser Glu Tyr Leu Glu Lys Gln  
 225 230 235 240  
 Ala Gln Pro Phe Phe Ser Ala Ala Thr His Gln Asp Ser Gln Gly Glu  
 245 250 255  
 Leu Pro Cys Pro Asp Cys Leu Ile Gln Gln Ala Phe Leu Cys Lys Trp  
 260 265 270  
 Val Met Lys Lys Phe Phe Asn Asn Ala Gly Ile Ala Val Ser Arg His  
 275 280 285  
 Phe Leu Gln Met Val Tyr Asp His Leu Ser Arg Ser Ser Cys Ala Thr  
 290 295 300  
 Leu Arg Met Arg Asn Lys Ile Val Ile Ile Lys Pro Gly Val Val Val  
 305 310 315 320  
 Ile Asp

<210> 999  
 <211> 918  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 999  
 Leu Ile Ser Leu Val Val Lys Phe Met Ser Lys Asp Lys Lys Met Lys  
 1 5 10 15  
 Pro Glu Pro Lys Lys Asn Phe Pro Thr Val Phe Phe Phe Leu Leu Phe  
 20 25 30  
 Gly Val Val Phe Gly Val Val Ala Phe Gln Asn Phe Leu Ala Gly Lys  
 35 40 45

Lys	Ala	Arg	Val	Gly	Phe	Ser	His	Gln	Ile	Glu	His	Leu	Val	Asn	Leu
50						55					60				
Arg	Leu	Ile	Val	Pro	Glu	Asp	Ser	His	Lys	Ile	Ala	Leu	Asn	Asp	Asn
65					70					75					80
Leu	Val	Ser	Phe	Gly	Gly	Arg	Phe	Arg	Asp	Val	Gln	Thr	Gln	Glu	Gly
				85					90					95	
Gln	Leu	Arg	Tyr	His	Tyr	Leu	Glu	Leu	Ile	Asp	Gln	Gly	His	Arg	Leu
			100					105					110		
Asp	Leu	Asp	Leu	Gln	Glu	Thr	Ser	Lys	Ser	Leu	Thr	Thr	Leu	Gly	Lys
		115					120					125			
Glu	Val	Thr	Asn	Ser	Ile	Leu	Trp	Phe	Ser	Ala	Ile	Ser	Gly	Ser	Pro
	130					135					140				
Ile	Pro	Glu	Gln	Gly	Tyr	Ala	Ile	Ser	Tyr	Pro	Ser	Glu	Val	Ser	Gly
145					150					155					160
Ser	Val	Leu	Thr	Glu	Pro	Leu	Val	Val	Thr	Gly	Pro	Ala	Thr	Pro	Gln
				165					170					175	
Leu	Ile	Asn	Leu	His	Ser	Leu	Gln	Glu	Arg	Tyr	Pro	Thr	Leu	Ser	Arg
		180						185					190		
Ser	Pro	Glu	Ala	Leu	Arg	Thr	Tyr	Gly	Ser	Asp	Leu	Tyr	Glu	Leu	Ile
		195					200					205			
Gly	Lys	Tyr	Leu	Ser	Pro	Val	Leu	Gly	Ile	Gly	Ser	Glu	Thr	Leu	Lys
	210					215					220				
Arg	Glu	Leu	Lys	Asp	Leu	Tyr	Gln	Gln	Val	Glu	Val	Ser	Leu	Thr	Gln
225					230					235					240
Glu	Thr	Asp	Thr	Glu	Ala	Ala	Tyr	Thr	Leu	Tyr	Gly	Gln	Val	Leu	Ser
				245					250					255	
Thr	Leu	Asn	Arg	Ile	Ser	Ser	Ser	Leu	Val	Val	Ser	Glu	Gly	Gly	Glu
		260						265					270		
Arg	Phe	Ser	Gln	Leu	Arg	Ser	Val	Arg	Leu	Tyr	Arg	Glu	Glu	Trp	Asn
		275					280					285			
Lys	Tyr	His	Lys	Leu	Val	Glu	Ala	Arg	Asp	Leu	Asn	Gln	Ala	Gln	Leu
	290					295					300				
Glu	Lys	Leu	Arg	Gly	Glu	Leu	Ser	Gln	Thr	Val	Trp	Tyr	Phe	Asn	Asn
305					310					315					320
Gln	Glu	Leu	Ser	Ser	Arg	Ser	Leu	Glu	Lys	Gln	Asp	Pro	Glu	Val	Phe
				325					330					335	
Gly	His	Trp	Phe	Ala	Gly	Ala	Lys	Glu	Glu	Trp	Thr	Ala	Phe	Lys	Phe
			340					345					350		
Asn	His	Ser	Leu	Ser	Phe	Lys	Ala	Pro	Asp	Gln	Pro	Arg	Asn	Leu	Val
		355					360					365			
Leu	Glu	Lys	Thr	Phe	Lys	Ser	Gln	Glu	Pro	Ser	Pro	His	Tyr	Leu	Gly
	370					375					380				
Tyr	Leu	Phe	Thr	Phe	Leu	Pro	Ile	Ile	Leu	Val	Leu	Leu	Phe	Val	Tyr
385					390					395					400
Leu	Val	Phe	Ser	Arg	Gln	Met	Arg	Gly	Met	Ser	Gly	Ser	Ala	Met	Ser
				405					410					415	
Phe	Gly	Lys	Ser	Pro	Ala	Arg	Met	Leu	Leu	Lys	Gly	Gln	Asn	Lys	Val
			420					425					430		
Thr	Phe	Ala	Asp	Val	Ala	Gly	Ile	Glu	Glu	Ala	Lys	Glu	Glu	Leu	Ile
		435					440					445			
Glu	Ile	Val	Asp	Phe	Leu	Lys	Asn	Pro	Asn	Lys	Phe	Thr	Ser	Leu	Gly
	450					455					460				
Gly	Arg	Ile	Pro	Lys	Gly	Val	Leu	Leu	Ile	Gly	Pro	Pro	Gly	Thr	Gly
465					470					475					480
Lys	Thr	Leu	Ile	Ala	Lys	Ala	Val	Ser	Gly	Glu	Ala	Asp	Arg	Pro	Phe
				485					490					495	
Phe	Ser	Ile	Ala	Gly	Ser	Asp	Phe	Val	Glu	Met	Phe	Val	Gly	Val	Gly
			500				505						510		
Ala	Ser	Arg	Ile	Arg	Asp	Met	Phe	Glu	Gln	Ala	Lys	Arg	Asn	Ala	Pro
		515					520					525			

Cys Ile Ile Phe Ile Asp Glu Ile Asp Ala Val Gly Arg His Arg Gly  
 530 535 540  
 Ala Gly Ile Gly Gly Gly His Asp Glu Arg Glu Gln Thr Leu Asn Gln  
 545 550 555 560  
 Leu Leu Val Glu Met Asp Gly Phe Gly Thr Asn Glu Gly Val Ile Leu  
 565 570 575  
 Met Ala Ala Thr Asn Arg Pro Asp Val Leu Asp Lys Ala Leu Leu Arg  
 580 585 590  
 Pro Gly Arg Phe Asp Arg Arg Val Val Met Asn Leu Pro Asp Ile Lys  
 595 600 605  
 Gly Arg Phe Glu Ile Leu Met Val His Ala Lys Arg Ile Lys Leu Asp  
 610 615 620  
 Pro Thr Val Asp Leu Met Ala Val Ala Arg Ser Thr Pro Gly Ala Ser  
 625 630 635 640  
 Gly Ala Asp Leu Glu Asn Leu Leu Asn Glu Ala Ala Leu Leu Ala Ala  
 645 650 655  
 Arg Lys Asp Arg Thr Ala Val Thr Ala Val Asp Val Ala Glu Ala Arg  
 660 665 670  
 Asp Lys Val Leu Tyr Gly Lys Glu Arg Arg Ser Leu Glu Met Asp Ala  
 675 680 685  
 Glu Glu Arg Lys Thr Thr Ala Tyr His Glu Ser Gly His Ala Val Val  
 690 695 700  
 Gly Leu Cys Val Gln His Gly Asp Pro Val Asp Lys Val Thr Ile Ile  
 705 710 715 720  
 Pro Arg Gly Leu Ser Leu Gly Ala Thr His Phe Leu Pro Glu Lys Asn  
 725 730 735  
 Lys Leu Ser Tyr Trp Lys Lys Glu Leu Tyr Asp Gln Leu Ala Val Leu  
 740 745 750  
 Met Gly Gly Arg Ala Ala Glu Glu Ile Phe Leu Gly Asp Ile Ser Ser  
 755 760 765  
 Gly Ala Gln Gln Asp Ile Ser Gln Ala Thr Lys Leu Val Arg Ser Met  
 770 775 780  
 Val Cys Glu Trp Gly Met Ser Pro Gln Leu Gly Asn Val Thr Tyr Asp  
 785 790 795 800  
 Glu Arg Ser Asp Gly Leu Thr Gly Tyr Gly Gly Tyr His Glu Lys Ser  
 805 810 815  
 Tyr Ser Glu Glu Thr Ala Lys Thr Ile Asp Thr Glu Leu Arg Met Leu  
 820 825 830  
 Leu Asp Ala Ala Tyr Gln Arg Ala Leu Asp Ile Ile Asn Glu His Lys  
 835 840 845  
 Ala Glu Ile Glu Leu Met Thr Gln Met Leu Ile Glu Phe Glu Thr Leu  
 850 855 860  
 Asp Ser Lys Asp Val Lys Glu Ile Met Asp His Thr Trp Asp Pro Glu  
 865 870 875 880  
 Lys Lys Arg Ala Arg Leu Lys Glu Glu Gly Met Leu Phe Lys Lys Ser  
 885 890 895  
 Ser Asp Asp Leu Pro Pro Pro Pro Lys Glu Asp Thr Leu Pro Gly  
 900 905 910  
 Leu Gly Phe Asn Ala Thr  
 915

<210> 1000

<211> 698

<212> PRT

<213> Chlamydia pneumoniae

<400> 1000

Gln Glu Thr Phe Met Asn Phe Gln Thr Ile Ser Ile Asn Leu Thr Glu  
 1 5 10 15  
 Gly Lys Ile Leu Val Phe Glu Thr Gly Lys Ile Ala Arg Gln Ala Asn  
 20 25 30

Gly	Ala	Val	Leu	Val	Arg	Ser	Gly	Glu	Thr	Cys	Val	Phe	Ala	Ser	Ala		
	35						40					45					
Cys	Ala	Val	Asp	Leu	Asp	Asp	Lys	Val	Asp	Phe	Leu	Pro	Leu	Arg	Val		
	50					55					60						
Asp	Tyr	Gln	Glu	Lys	Phe	Ser	Ser	Thr	Gly	Lys	Thr	Leu	Gly	Gly	Phe		
65					70					75					80		
Ile	Lys	Arg	Glu	Gly	Arg	Pro	Ser	Glu	Lys	Glu	Ile	Leu	Val	Ser	Arg		
				85					90					95			
Leu	Ile	Asp	Arg	Ser	Leu	Arg	Pro	Ser	Phe	Pro	Tyr	Arg	Leu	Met	Gln		
				100				105					110				
Asp	Val	Gln	Val	Leu	Ser	Tyr	Val	Trp	Ser	Tyr	Asp	Gly	Gln	Val	Leu		
		115						120					125				
Pro	Asp	Pro	Leu	Ala	Ile	Cys	Ala	Ala	Ser	Ala	Ala	Leu	Ala	Ile	Ser		
	130					135						140					
Asp	Ile	Pro	Gln	Ser	Asn	Ile	Val	Ala	Gly	Val	Arg	Ile	Gly	Cys	Ile		
145					150					155					160		
Asp	Asn	Gln	Trp	Val	Ile	Asn	Pro	Thr	Lys	Thr	Glu	Leu	Ala	Ser	Ser		
				165					170						175		
Thr	Leu	Asp	Leu	Val	Leu	Ala	Gly	Thr	Glu	Asn	Ala	Ile	Leu	Met	Ile		
				180					185					190			
Glu	Gly	His	Cys	Asp	Phe	Phe	Thr	Glu	Glu	Gln	Val	Leu	Asp	Ala	Ile		
		195					200						205				
Glu	Phe	Gly	His	Lys	His	Ile	Val	Thr	Ile	Cys	Lys	Arg	Leu	Gln	Leu		
	210					215						220					
Trp	Gln	Glu	Glu	Val	Gly	Lys	Ser	Lys	Asn	Leu	Ser	Ala	Val	Tyr	Pro		
225					230					235					240		
Leu	Pro	Ala	Glu	Val	Leu	Thr	Ala	Val	Lys	Glu	Cys	Ala	Gln	Asp	Lys		
				245					250						255		
Phe	Thr	Glu	Leu	Phe	Asn	Ile	Lys	Asp	Lys	Lys	Val	His	Ala	Ala	Thr		
				260				265						270			
Ala	His	Glu	Ile	Glu	Glu	Asn	Ile	Leu	Glu	Lys	Leu	Gln	Arg	Glu	Asp		
		275					280						285				
Asp	Asp	Leu	Phe	Ser	Ser	Phe	Asn	Ile	Lys	Ala	Ala	Cys	Lys	Thr	Leu		
	290					295						300					
Lys	Ser	Asp	Thr	Met	Arg	Ala	Leu	Ile	Arg	Asp	Arg	Glu	Ile	Arg	Ala		
305					310					315					320		
Asp	Gly	Arg	Ser	Leu	Thr	Thr	Val	Arg	Pro	Ile	Thr	Ile	Glu	Thr	Ser		
				325					330						335		
Tyr	Leu	Pro	Arg	Thr	His	Gly	Ser	Cys	Leu	Phe	Thr	Arg	Gly	Glu	Thr		
				340				345						350			
Gln	Thr	Leu	Ala	Val	Cys	Thr	Leu	Gly	Ser	Glu	Ala	Met	Ala	Gln	Arg		
				355				360					365				
Tyr	Glu	Asp	Leu	Asn	Gly	Glu	Gly	Leu	Ser	Lys	Phe	Tyr	Leu	Gln	Tyr		
	370					375						380					
Phe	Phe	Pro	Pro	Phe	Ser	Val	Gly	Glu	Val	Gly	Arg	Ile	Gly	Ser	Pro		
385					390					395					400		
Gly	Arg	Arg	Glu	Ile	Gly	His	Gly	Lys	Leu	Ala	Glu	Lys	Ala	Leu	Ser		
				405					410					415			
His	Ala	Leu	Pro	Asp	Ser	Ala	Thr	Phe	Pro	Tyr	Thr	Ile	Arg	Ile	Glu		
				420				425					430				
Ser	Asn	Ile	Thr	Glu	Ser	Asn	Gly	Ser	Ser	Ser	Met	Ala	Ser	Val	Cys		
				435			440						445				
Gly	Gly	Cys	Leu	Ala	Leu	Met	Asp	Ala	Gly	Val	Pro	Ile	Ser	Ser	Pro		
	450					455						460					
Ile	Ala	Gly	Ile	Ala	Met	Gly	Leu	Ile	Leu	Asp	Asp	Gln	Gly	Ala	Ile		
465					470					475					480		
Ile	Leu	Ser	Asp	Ile	Ser	Gly	Leu	Glu	Asp	His	Leu	Gly	Asp	Met	Asp		
				485					490					495			
Phe	Lys	Ile	Ala	Gly	Ser	Gly	Lys	Gly	Ile	Thr	Ala	Phe	Gln	Met	Asp		
				500				505						510			

Ile Lys Val Glu Gly Ile Thr Pro Ala Ile Met Lys Lys Ala Leu Ser  
           515                                  520                                  525  
 Gln Ala Lys Gln Gly Cys Asn Asp Ile Leu Asn Ile Met Asn Glu Ala  
           530                                  535                                  540  
 Leu Ser Ala Pro Lys Ala Asp Leu Ser Gln Tyr Ala Pro Arg Ile Glu  
 545                                  550                                  555                                  560  
 Thr Met Gln Ile Lys Pro Thr Lys Ile Ala Ser Val Ile Gly Pro Gly  
                                   565                                  570                                  575  
 Gly Lys Gln Ile Arg Gln Ile Ile Glu Glu Thr Gly Val Gln Ile Asp  
                                   580                                  585                                  590  
 Val Asn Asp Leu Gly Val Val Ser Ile Ser Ala Ser Ser Ala Ser Ala  
                                   595                                  600                                  605  
 Ile Asn Lys Ala Lys Glu Ile Ile Glu Gly Leu Val Gly Glu Val Glu  
           610                                  615                                  620  
 Val Gly Lys Thr Tyr Arg Gly Arg Val Thr Ser Val Val Ala Phe Gly  
 625                                  630                                  635                                  640  
 Ala Phe Val Glu Val Leu Pro Gly Lys Glu Gly Leu Cys His Ile Ser  
                                   645                                  650                                  655  
 Glu Cys Ser Arg Gln Arg Ile Glu Asn Ile Ser Asp Val Val Lys Glu  
                                   660                                  665                                  670  
 Gly Asp Ile Ile Asp Val Lys Leu Leu Ser Ile Asn Glu Lys Gly Gln  
           675                                  680                                  685  
 Leu Lys Leu Ser His Lys Ala Thr Leu Glu  
           690                                  695

<210> 1001  
 <211> 101  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1001  
 Ser Ala Phe Ala Ala Ile Ile Leu Arg Arg His Pro Met Ser Leu Asp  
 1                                  5                                  10                                  15  
 Lys Gly Thr Lys Glu Glu Ile Thr Lys Lys Phe Gln Leu His Glu Lys  
           20                                  25                                  30  
 Asp Thr Gly Ser Ala Asp Val Gln Ile Ala Ile Leu Thr Glu His Ile  
           35                                  40                                  45  
 Ala Glu Leu Lys Glu His Leu Lys Arg Ser Pro Lys Asp Gln Asn Ser  
           50                                  55                                  60  
 Arg Leu Ala Leu Leu Lys Leu Val Gly Gln Arg Arg Lys Leu Leu Glu  
 65                                  70                                  75                                  80  
 Tyr Leu Asn Ser Thr Asp Thr Glu Arg Tyr Lys Asn Leu Ile Thr Arg  
                                   85                                  90                                  95  
 Leu Asn Leu Arg Lys  
           100

<210> 1002  
 <211> 167  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1002  
 Tyr Tyr Leu Glu Leu Gly Gly Glu Lys Leu Ile Asn Met Glu Lys Asp  
 1                                  5                                  10                                  15  
 Ile Phe Phe Met Gln Gln Ala Phe Lys Glu Ala Arg Lys Ala Tyr Asp  
           20                                  25                                  30  
 Gln Asp Glu Val Pro Val Gly Cys Val Ile Val Lys Asp Asp Lys Ile  
           35                                  40                                  45  
 Ile Ala Arg Ala His Asn Ser Val Glu Lys Leu Lys Asp Ala Thr Ala  
           50                                  55                                  60

His Ala Glu Ile Leu Cys Ile Gly Ser Ala Ala Gln Asp Leu Asp Asn  
 65 70 75 80  
 Trp Arg Leu Leu Asp Thr Val Leu Tyr Cys Thr Leu Glu Pro Cys Leu  
 85 90 95  
 Met Cys Ala Gly Ala Ile Gln Leu Ala Arg Ile Pro Arg Ile Val Trp  
 100 105 110  
 Ala Ala Pro Asp Val Arg Leu Gly Ala Gly Gly Ser Trp Val Asn Ile  
 115 120 125  
 Phe Thr Glu Glu His Pro Phe His Thr Val Ser Cys Thr Gly Gly Val  
 130 135 140  
 Cys Ser Glu Glu Ala Glu His Leu Met Lys Lys Phe Phe Val Glu Lys  
 145 150 155 160  
 Arg Arg Glu Lys Ser Glu Lys  
 165

<210> 1003  
 <211> 82  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1003  
 Lys Ser Ala Glu Arg Lys Val Lys Asn Lys Ile Val Thr Leu Leu Asp  
 1 5 10 15  
 Gln Leu Tyr Glu Asp Gln Glu Ser Arg Leu Gln Lys Leu Gly Glu Glu  
 20 25 30  
 Ile Val Pro Asn Leu Thr Pro Glu Asp Leu Leu Gln Pro Met Asp Phe  
 35 40 45  
 Pro Gln Leu Glu Gly Asn Pro Ala Phe Arg Phe Glu Glu Gly Val Leu  
 50 55 60  
 Ser Gly Ile Gly Glu Val Arg Ala Ala Ile Leu Ala Ala Leu Ser Gln  
 65 70 75 80  
 Glu Asn

<210> 1004  
 <211> 257  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1004  
 Thr Ser Asn Lys Thr Ile His Pro Leu Leu Trp Gly Pro Asp Arg Gln  
 1 5 10 15  
 Ile Ala Gly Lys Ala Ser Met Arg Val Ile Phe Pro Asp Lys His Asn  
 20 25 30  
 Asn Phe Pro Asn Leu Ser Lys Leu Lys Lys Leu Pro Ser Val Ile  
 35 40 45  
 Leu Val Thr Ser Cys Ile Ala Pro Phe Phe Ser Tyr Ile Ile Asn Lys  
 50 55 60  
 Phe Phe Gly Ile Pro Gly Leu Leu Glu Ile Leu Ala Leu Ser Val Lys  
 65 70 75 80  
 Gly Ile Gln Lys His His Phe Trp Gln Phe Leu Thr Tyr Pro Leu Ile  
 85 90 95  
 Thr Ala Asp Ser Leu Ser Leu Asn Lys Asp Gln Ser Phe Glu Ile Thr  
 100 105 110  
 Gln Arg Leu Leu Leu Arg Asn Val Leu Asp Phe Phe Leu Phe Tyr Lys  
 115 120 125  
 Ala Ile Gln His Leu Ile Arg Lys Leu Gly Ala Phe Ser Val Leu Val  
 130 135 140  
 Val Ile Ser Gly Gln Ala Leu Ile Ile Gly Ala Val Leu Trp Gly Phe  
 145 150 155 160

Met Ala Leu Ile His Ser Ser Gln Ser Phe Phe Gly Pro Glu Ser Ile  
165 170 175  
Ile Cys Gly Val Leu Thr Val Gln Ile Phe Leu Asp Pro Glu Lys Arg  
180 185 190  
Phe Thr Ile Gly Pro Thr Pro Leu Ser Val Ser Ile Lys Trp Gly Phe  
195 200 205  
Leu Phe Val Leu Gly Phe Tyr Cys Cys Ile Leu Ile Phe Ser Gly Ala  
210 215 220  
Phe Leu Leu Leu Leu Ala Ser Met Leu Ala Ile Val Leu Ala Ile Leu  
225 230 235 240  
Phe Cys Lys Lys Glu Lys Ile Pro Asn Pro Tyr Thr Thr Ser Leu Arg  
245 250 255  
Phe

<210> 1005  
<211> 180  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1005  
His Leu Ser Ile Glu Glu Leu Met Ser Ile Gln Pro Val Ser Asn Thr  
1 5 10 15  
Thr Thr Lys Ala Asp Lys Val Ile Pro Asp Ser Thr Lys Val Ile Ser  
20 25 30  
Asp Ser Ile Thr Ile Asn Lys Gln Ser Ala Phe Tyr Phe Cys Ile Ser  
35 40 45  
Val Met Leu Arg Leu Ser Glu Ser Thr Thr Glu Tyr Gly Lys Ser Ile  
50 55 60  
Leu Ala Val Leu Glu Asp Asn Thr Ile Val Gln Gln Gln Arg Val Lys  
65 70 75 80  
Glu Leu Ile Asn Leu Pro Leu Leu Lys Val Pro Asp Leu Gln Lys Lys  
85 90 95  
Asp Gly Ser Asp Asp Glu Tyr Lys Asn Gln Asn Glu Ile Gln Ala Tyr  
100 105 110  
Gln Ser Ser Asn Gln Gln Ile Ser Ala Asn Arg Gln Met Ile Gln Gln  
115 120 125  
Glu Leu Ser Ser Ala Gln Gln Arg Ala Gln Ala Asn Gln Lys Ser Val  
130 135 140  
Asn Ser Thr Thr Ile Glu Ser Met Gln Ile Leu Gln Ala Thr Ser Ser  
145 150 155 160  
Met Leu Ser Thr Leu Lys Glu Leu Thr Ile Lys Ala Asn Leu Thr Asn  
165 170 175  
Ser Pro Ser Asp  
180

<210> 1006  
<211> 181  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1006  
Asn Arg Lys Pro Val Arg Leu Asn Met Trp Ile Ile Asp Pro Leu Ser  
1 5 10 15  
Ala Lys Lys Pro Leu Gln Ala Ala Ile Asn Val Pro Gly Thr Pro Ile  
20 25 30  
Thr Gly Gly Pro Asn Thr Ala Thr Ala Asp Asp Ile Ile Ala Lys Phe  
35 40 45  
Ser Lys Asp Ser Asn Pro Leu Ile Val Thr Val Tyr Tyr Val Tyr Gln  
50 55 60

Ser Val Leu Val Ala Gln Asp Asn Leu Ser Ile Ile Ala Gln Glu Leu  
 65 70 75 80  
 Gln Ala Asn Ser Ser Ala Gln Thr Tyr Leu Asn Asn Gln Glu Ala Leu  
 85 90 95  
 Tyr Gln Tyr Val Ser Ile Pro Lys Asn Lys Leu Asn Asp Asn Ser Ser  
 100 105 110  
 Ser Tyr Leu Gln Asn Ile Gln Ser Asp Asn Gln Ala Ile Gly Ala Ser  
 115 120 125  
 Arg Gln Ala Ile Gln Asn Gln Ile Ser Ser Leu Gly Asn Ala Ala Gln  
 130 135 140  
 Val Ile Ser Ser Asn Leu Asn Thr Asn Asn Asn Ile Ile Gln Gln Ser  
 145 150 155 160  
 Leu Gln Val Gly Gln Ala Leu Ile Gln Thr Phe Ser Gln Ile Val Ser  
 165 170 175  
 Leu Ile Ala Asn Ile  
 180

<210> 1007  
 <211> 168  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1007  
 Thr Lys Val Asn Phe Phe Ile Met Ser Ile Thr Thr Leu Gly Thr Leu  
 1 5 10 15  
 Pro Thr Val Asn Thr Ile Asn Ser Ser Arg Pro Pro Leu Glu Pro Leu  
 20 25 30  
 Asn Thr Pro Lys Ile Gly Ala Val Leu Phe Ser Ile Tyr Glu Leu Leu  
 35 40 45  
 Leu Gln Ala Ile Glu Ile Arg Gln Gln Thr Val Leu Thr Gln Ser Gln  
 50 55 60  
 Gln Leu Asn Asp Asn Thr Asn Ile Gln Gln Gln Leu Asn Gln Glu Thr  
 65 70 75 80  
 Asn Gln Ile Lys Tyr Ala Ile Val Ser Ala Gly Ala Lys Glu Asp Glu  
 85 90 95  
 Ile Thr Arg Val Gln Asn Gln Asn Gln Asn Tyr Ser Ala Gln Arg Ser  
 100 105 110  
 Asn Ile Gln Asp Glu Leu Val Thr Thr Arg Gln Asn Gly Gln Ile Ile  
 115 120 125  
 Leu Ser His Ala Ser Thr Asn Ile Asn Ile Ile Gln Gln Gln Ser Ser  
 130 135 140  
 Gln Asp Ser Ser Phe Ile Lys Thr Thr Asn Ser Ile Gly Ser Thr Val  
 145 150 155 160  
 Asn Gln Leu Asn Lys Pro Leu Gly  
 165

<210> 1008  
 <211> 73  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1008  
 Leu Trp Tyr Lys Ser Leu Ala Gly Glu Glu Lys Asp Val Ser Gly Asn  
 1 5 10 15  
 Glu Cys Asn Asp Tyr Pro Glu Val Phe Lys Asp Asp Val Ser Ala Tyr  
 20 25 30  
 Val Leu Val Thr Cys Gly Gln Met Ser Ser Glu Gly Lys Ile Gln Val  
 35 40 45  
 Glu Met Thr Tyr Glu Gly Asp Pro Ala Val Ile Ser Tyr Leu Leu Thr  
 50 55 60



Lys Ala Arg Asp Ser Leu Asp Glu Ser  
65 70

<210> 1009  
<211> 440  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1009

Val	Leu	Asn	Tyr	Ser	Phe	Ile	Gly	Met	Leu	Lys	Pro	Met	Tyr	Val	Leu
1				5					10					15	
Ser	Lys	Arg	Leu	Tyr	Arg	Trp	Val	Asn	Gln	Leu	Ile	Lys	Leu	Gly	Asp
			20					25					30		
Leu	Val	Lys	Asn	Ser	Arg	Ser	Phe	Ser	Val	Glu	Trp	Val	Phe	Ile	Ser
		35					40					45			
Ala	Leu	Leu	Leu	Ile	Phe	Gly	Cys	Leu	Gly	Cys	Ala	Ser	Val	Val	Lys
	50					55				60					
Val	Ser	Leu	Val	Pro	Phe	Leu	Leu	Leu	Phe	Ser	Phe	Leu	Ala	Phe	Pro
65					70					75				80	
Leu	Ile	Leu	Cys	Phe	Arg	Gly	Lys	Gly	Tyr	Ala	Leu	Leu	Leu	Gly	Val
				85					90					95	
Phe	Val	Thr	Leu	Tyr	Val	Ala	Lys	Tyr	Val	Val	Gly	Glu	Thr	Leu	Tyr
			100					105					110		
Val	Ser	Phe	Trp	Leu	Ser	Gly	Leu	Gly	Val	Ser	Phe	Leu	Leu	Ala	Phe
		115					120					125			
Gly	Leu	Phe	Leu	Gln	Gly	Val	Trp	Leu	Ala	Gln	Glu	Glu	Glu	Met	Val
	130					135					140				
Lys	Gly	Lys	Glu	Gln	Leu	Arg	Leu	Ser	Glu	Asp	Leu	Asp	Ala	Gln	Arg
145					150					155				160	
Ser	Ala	Tyr	Glu	Asp	Leu	Leu	Leu	Thr	Lys	Ser	Gln	Glu	Lys	Glu	Phe
				165					170					175	
Leu	Asp	Ala	Arg	Ala	Gln	Gly	Leu	Asp	Arg	Glu	Leu	Thr	Glu	Cys	Gln
			180					185					190		
Glu	Leu	Leu	Lys	Ala	Ala	Tyr	Gln	Lys	Gln	Glu	Tyr	Leu	Thr	Ile	Asp
		195					200					205			
Leu	Lys	Ile	Leu	Ala	Asp	Gln	Lys	Asn	Ser	Trp	Leu	Glu	Asp	Tyr	Ala
	210					215					220				
Glu	Leu	His	Asn	Lys	Tyr	Ile	Glu	Leu	Val	Ser	Lys	Asn	Gly	Asp	Val
225				230						235				240	
Val	Phe	Pro	Trp	Val	Ala	Glu	Pro	Ser	Val	Gly	Glu	Ser	Gln	Gly	Ser
			245						250					255	
Glu	Arg	Val	Asp	Val	Ser	Arg	Trp	Val	Ser	Ala	Leu	Gln	Glu	Lys	Glu
			260					265					270		
Glu	Ser	Leu	Glu	Arg	Leu	Arg	Asn	Glu	Ile	Leu	Val	Glu	Lys	Gln	Arg
		275					280					285			
Cys	Ser	Asp	Tyr	Glu	His	Arg	Cys	Gln	Glu	Leu	Gly	Leu	Leu	Leu	Gln
	290					295					300				
Asn	Phe	Thr	Ala	Leu	Glu	Arg	Arg	Cys	Glu	Glu	Leu	Gln	Asn	Leu	Leu
305					310					315				320	
Asn	Gln	Lys	Glu	Thr	Gln	Ile	Asn	Glu	Leu	His	Gln	Leu	Val	Cys	Lys
			325						330					335	
Ser	Glu	Glu	Lys	Val	Ser	Val	Glu	Pro	Ser	Ala	His	Ala	Glu	Thr	Ser
			340					345					350		
Cys	Val	Glu	Glu	Lys	Gln	Tyr	Lys	Gly	Leu	Tyr	Ser	Gln	Leu	Gln	Glu
		355					360					365			
Gln	Phe	Leu	Glu	Lys	Ser	Glu	Thr	Leu	Ser	Leu	Val	Arg	Lys	Lys	Leu
	370					375					380				
Phe	Ala	Val	Gln	Glu	Lys	Tyr	Leu	Thr	Leu	Lys	Lys	Lys	Glu	Glu	Leu
385					390					395				400	
Thr	Lys	Gln	Asp	Ile	Ser	Phe	Asp	Asp	Ile	Ser	Met	Ile	Gln	Gly	Leu
				405					410					415	

Leu Glu Arg Ile Glu Ile Leu Glu Glu Glu Val Ser His Leu Glu Glu  
420 425 430  
Leu Val Ser Arg Ser Leu Ser Leu  
435 440

<210> 1010  
<211> 300  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1010  
Tyr Arg Leu Leu His Arg Val Ile Leu Met Lys Arg Asn Asp Pro Cys  
1 5 10 15  
Trp Cys Gly Ser Gly Arg Lys Trp Lys Gln Cys His Tyr Pro Gln Pro  
20 25 30  
Pro Lys Met Ser Pro Glu Ala Leu Lys Gln His Tyr Ala Ser Gln Tyr  
35 40 45  
Asn Ile Leu Leu Lys Thr Pro Glu Gln Lys Ala Lys Ile Tyr Asn Ala  
50 55 60  
Cys Gln Ile Thr Ala Arg Ile Leu Asp Glu Leu Cys Lys Ala Ser Gln  
65 70 75 80  
Lys Gly Val Thr Thr Asn Glu Leu Asp Glu Leu Ser Gln Glu Leu His  
85 90 95  
Lys Lys Tyr Asp Ala Ile Ala Ala Pro Phe His Tyr Gly Ser Pro Pro  
100 105 110  
Phe Pro Lys Thr Ile Cys Thr Ser Leu Asn Glu Val Ile Cys His Gly  
115 120 125  
Ile Pro Asn Asp Ile Pro Leu Lys Asp Gly Asp Ile Met Asn Ile Asp  
130 135 140  
Val Ser Cys Ile Val Asp Gly Tyr Tyr Gly Asp Cys Ser Arg Met Val  
145 150 155 160  
Met Ile Gly Glu Val Pro Glu Ile Lys Lys Lys Ile Cys Gln Ala Ala  
165 170 175  
Leu Glu Cys Leu Asn Asp Ser Ile Ala Ile Leu Lys Pro Gly Ile Pro  
180 185 190  
Leu Cys Glu Ile Gly Glu Ala Ile Glu Ala Arg Ala Asp Thr Tyr Gly  
195 200 205  
Phe Ser Val Val Asp Gln Phe Val Gly His Gly Val Gly Ile Glu Phe  
210 215 220  
His Glu Asn Pro Tyr Val Pro His Tyr Arg Asn Arg Ser Met Ile Pro  
225 230 235 240  
Leu Ala Pro Gly Met Ile Phe Thr Ile Glu Pro Met Ile Asn Val Gly  
245 250 255  
Lys Lys Glu Gly Val Val Asp Pro Lys Asn Gln Trp Glu Ala Arg Thr  
260 265 270  
Cys Asp Asn Gln Pro Ser Ala Gln Trp Glu His Thr Ile Ala Ile Thr  
275 280 285  
Glu Thr Gly Tyr Glu Ile Leu Thr Leu Leu Asn Asp  
290 295 300

<210> 1011  
<211> 203  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1011  
Val Met Leu Ile Leu Leu Asn Leu Ser Leu Leu Phe Tyr Val Leu Phe  
1 5 10 15  
Asp Ser Pro Gly Ser Ile Pro Val Phe Val Ala Leu Leu Lys Asn Phe  
20 25 30

Ser Arg Lys Lys Gln Gln Arg Val Ile Leu Arg Glu Cys Leu Phe Ala  
           35                  40                  45  
 Leu Gly Ala Leu Ile Leu Phe Val Thr Phe Gly Arg Ser Phe Phe Gln  
           50                  55                  60  
 Phe Leu Asp Ile Ser Leu Tyr Ala Phe Gln Ile Ile Gly Gly Phe Leu  
   65                  70                  75                  80  
 Leu Phe Thr Val Ser Ile Lys Met Met Leu Ala Pro Met Pro Glu Lys  
                   85                  90                  95  
 Ala Lys Asp Asp Thr Ser Lys Thr Glu Pro Ile Phe Phe Pro Leu Ala  
                   100                  105                  110  
 Phe Pro Val Ile Thr Gly Pro Ala Val Ile Thr Ala Leu Leu Ser Tyr  
           115                  120                  125  
 Met Glu Glu Gly Ile Tyr Ser Arg Glu Ile Ile Phe Thr Ala Met Ile  
   130                  135                  140  
 Ile Ala Trp Ala Phe Ser Leu Phe Thr Leu Leu Cys Ser Ser Phe Phe  
  145                  150                  155                  160  
 Asp Arg Leu Phe Gly Asn Phe Gly Leu Leu Ala Leu Glu Arg Leu Phe  
                   165                  170                  175  
 Gly Ile Ala Leu Leu Leu Met Ser Val Asn Leu Met Leu Lys Gly Ile  
                   180                  185                  190  
 Ser Ile Ala Phe Asn Ile Gly Phe Tyr Ile Gly  
           195                  200

<210> 1012  
 <211> 136  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1012  
 Glu Met Arg Leu Lys Asn Tyr Pro Met Ile Gln Phe Ser Phe Phe Leu  
   1                  5                  10                  15  
 Pro Gln Thr Cys Ile Leu Leu Leu Ala Ser Asp Ser Leu Thr Asn Ile  
           20                  25                  30  
 Leu Ala Leu His His Leu Leu Ala Asn Tyr Ser Val Lys Gln Arg Met  
           35                  40                  45  
 Leu Val Leu Leu Arg Glu Ser Phe Phe Ala Phe Ile Ala Met Phe Ala  
   50                  55                  60  
 Leu Tyr Gly Leu Ala Leu Gly Gly Leu Lys Val Leu Asn Thr Pro Val  
  65                  70                  75                  80  
 Cys Ala Ile Glu Val Val Gly Gly Ile Ala Val Thr Leu Ala Gly Val  
                   85                  90                  95  
 Arg Ala Val Leu Arg Leu Gly Lys Glu Glu Ser Trp Ile Pro Tyr Lys  
                   100                  105                  110  
 Phe Asn Met Ser Pro Ser Tyr Ser Pro Cys Ile Ser Pro Ile Ala Leu  
           115                  120                  125  
 Pro Leu Met Phe Gly Pro Ser Gly  
  130                  135

<210> 1013  
 <211> 600  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1013  
 Ala Ile Phe Ser Leu Ile Thr Ser Lys Met Lys Lys Lys Phe Ile Phe  
   1                  5                  10                  15  
 Tyr Phe Val Ile Val Phe Ser Leu Leu Phe Leu Trp Glu Met Thr Ser  
           20                  25                  30  
 Arg His Arg Pro Thr Phe Ser Phe Phe Cys Pro Pro Pro Ser Ser Ile  
           35                  40                  45

Ala	Ser	Ser	Thr	Leu	Gln	Ser	Leu	Pro	Leu	Leu	Leu	Thr	Ser	Ala	Trp
50						55					60				
His	Thr	Leu	Lys	Ala	Ile	Leu	Gly	Gly	Phe	Phe	Leu	Ala	Ile	Thr	Leu
65					70					75					80
Ser	Ile	Val	Leu	Ala	Thr	Ile	Met	Leu	Ser	Tyr	Lys	Ser	Ala	Lys	Asp
				85					90					95	
Leu	Leu	Gln	Pro	Leu	Phe	Ile	Leu	Leu	Gln	Cys	Thr	Pro	Met	Phe	Ala
			100					105					110		
Leu	Ala	Pro	Leu	Ile	Val	Leu	Trp	Phe	Gly	Trp	Gly	Ile	Gly	Ala	Val
		115					120					125			
Ile	Val	Pro	Thr	Ala	Leu	Thr	Ile	Phe	Phe	Pro	Leu	Thr	Leu	Thr	Ile
	130					135					140				
Tyr	Gln	Gly	Ile	Leu	Ser	Thr	Pro	Glu	Glu	Leu	Ile	Glu	Gln	Phe	Val
145					150					155					160
Leu	Cys	Gly	Ala	Thr	Lys	Phe	Gln	Leu	Leu	Ile	Lys	Leu	Arg	Ile	Pro
				165					170					175	
His	Ala	Leu	Pro	His	Ile	Phe	Ser	Gly	Leu	Lys	Ile	Ala	Ile	Gly	Ser
			180					185					190		
Ala	Gly	Phe	Ala	Ala	Ile	Ala	Gly	Glu	Trp	Val	Ala	Ser	Gln	Ser	Gly
		195					200					205			
Leu	Gly	Ile	Leu	Met	Leu	Glu	Ser	Arg	Arg	Asn	Tyr	Glu	Met	Glu	Leu
	210					215					220				
Ala	Phe	Ala	Gly	Leu	Ala	Thr	Leu	Ser	Ile	Leu	Thr	Leu	Ser	Leu	Phe
225					230					235					240
Gln	Ile	Thr	Leu	Leu	Ile	Glu	Lys	Leu	Ile	Phe	Ser	Leu	Phe	Arg	Val
				245					250					255	
Lys	Arg	Met	Ser	Leu	Lys	His	Lys	Ser	Val	Ala	Lys	Lys	Ala	Leu	Ser
			260					265					270		
Val	Leu	Ala	Leu	Ile	Pro	Ile	Met	Leu	Ile	Pro	Trp	Lys	Gly	Asn	Ser
		275					280					285			
Lys	Ser	Pro	Pro	Asp	Lys	Lys	Asn	Leu	Thr	Ser	Leu	Thr	Leu	Leu	Leu
	290					295					300				
Asp	Trp	Thr	Pro	Asn	Pro	Asn	His	Ile	Pro	Leu	Tyr	Ala	Gly	Val	Ala
305					310					315					320
Lys	Gly	Tyr	Phe	Lys	Gln	His	Gly	Leu	Asp	Leu	Gln	Leu	Gln	Lys	Asn
				325					330					335	
Thr	Asp	Ser	Ser	Ser	Ala	Val	Pro	His	Val	Leu	Phe	Glu	Gln	Val	Asp
			340					345					350		
Met	Ala	Leu	Tyr	His	Ala	Leu	Gly	Ile	Met	Lys	Thr	Ser	Ile	Lys	Gly
		355					360					365			
Met	Pro	Ile	Gln	Ile	Val	Gly	Arg	Leu	Ile	Asp	Ser	Ser	Leu	Gln	Gly
	370					375					380				
Phe	Leu	Tyr	Arg	Ser	Gln	Asp	Pro	Ile	Tyr	Lys	Phe	Glu	Asp	Leu	Asn
385					390					395					400
Gly	Lys	Val	Leu	Gly	Phe	Cys	Leu	Asn	Asn	Ser	Arg	Asp	Leu	Asn	Arg
				405					410					415	
Leu	Leu	Glu	Thr	Leu	Asn	Arg	Asn	Gly	Val	Val	Pro	Ser	Glu	Val	Lys
			420					425					430		
Asn	Val	Ser	Ser	Asp	Leu	Ile	Ser	Pro	Met	Leu	Leu	Asn	Lys	Ile	Asp
		435					440					445			
Phe	Leu	Tyr	Gly	Ala	Phe	Tyr	Asn	Ile	Glu	Gly	Val	Lys	Leu	Gln	Thr
	450					455					460				
Leu	Gly	Met	Pro	Val	Lys	Cys	Phe	Leu	Ser	Asp	Thr	Cys	Asp	Leu	Pro
465					470					475					480
Thr	Gly	Pro	Gln	Leu	Ile	Val	Phe	Thr	Lys	Lys	Gly	Thr	Lys	Ala	Ser
				485					490					495	
Glu	Pro	Glu	Ile	Val	Glu	Ala	Phe	Gln	Lys	Ala	Leu	Gln	Glu	Ser	Ile
			500					505					510		
Ile	Phe	Ser	Lys	Asp	His	Pro	Glu	Asp	Ala	Phe	Lys	Leu	Tyr	Ala	Lys
		515					520					525			

Glu	Thr	Lys	Ser	Ile	Pro	Lys	Asn	Leu	Tyr	Gln	Glu	Tyr	Leu	Gln	Trp
	530					535					540				
Glu	Glu	Thr	Phe	Pro	Leu	Leu	Ala	Gln	Ser	Gln	Asp	Pro	Leu	Ser	Lys
545					550					555					560
Asp	Leu	Val	Asp	Lys	Leu	Leu	Glu	Thr	Ile	Ile	Lys	Arg	Tyr	Pro	Glu
				565					570						575
Leu	Ala	Ser	Glu	Val	Ala	Lys	Phe	Ser	Leu	Asn	Asp	Leu	Tyr	Asn	Pro
			580					585					590		
Ser	Leu	Pro	Glu	Glu	Gln	Ser	Val								
		595					600								

<210> 1014

<211> 472

<212> PRT

<213> Chlamydia pneumoniae

<400> 1014

Arg	Glu	Asn	Ser	Leu	Asn	His	Arg	Gly	Asn	Ile	Asp	Met	Arg	Gln	Glu
1				5					10					15	
Lys	Asp	Ser	Leu	Gly	Ile	Val	Glu	Val	Pro	Glu	Asp	Lys	Leu	Tyr	Gly
			20					25					30		
Ala	Gln	Thr	Met	Arg	Ser	Arg	Asn	Phe	Phe	Ser	Trp	Gly	Pro	Glu	Leu
		35					40					45			
Met	Pro	Tyr	Glu	Val	Ile	Arg	Ala	Leu	Val	Trp	Ile	Lys	Lys	Cys	Ala
	50					55					60				
Ala	Gln	Ala	Asn	Gln	Asp	Leu	Gly	Phe	Leu	Asp	Ser	Lys	His	Cys	Asp
65					70					75					80
Met	Ile	Val	Ala	Ala	Ala	Asp	Glu	Ile	Leu	Glu	Gly	Gly	Phe	Glu	Glu
			85					90						95	
His	Phe	Pro	Leu	Lys	Val	Trp	Gln	Thr	Gly	Ser	Gly	Thr	Gln	Ser	Asn
			100					105					110		
Met	Asn	Val	Asn	Glu	Val	Ile	Ala	Asn	Leu	Ala	Ile	Arg	His	His	Gly
		115					120					125			
Gly	Val	Leu	Gly	Ser	Lys	Asp	Pro	Ile	His	Pro	Asn	Asp	His	Val	Asn
	130					135						140			
Lys	Ser	Gln	Ser	Ser	Asn	Asp	Val	Phe	Pro	Thr	Ala	Met	His	Ile	Ala
145					150					155					160
Ala	Val	Ile	Ser	Leu	Lys	Asn	Lys	Leu	Ile	Pro	Ala	Leu	Asp	His	Met
				165					170					175	
Ile	Arg	Val	Leu	Asp	Ala	Lys	Val	Glu	Glu	Phe	Arg	His	Asp	Val	Lys
		180						185					190		
Ile	Gly	Arg	Thr	His	Leu	Met	Asp	Ala	Val	Pro	Met	Thr	Leu	Gly	Gln
	195						200					205			
Glu	Phe	Ser	Gly	Tyr	Ser	Ser	Gln	Leu	Arg	His	Cys	Leu	Glu	Ser	Ile
	210					215					220				
Ala	Phe	Ser	Leu	Ala	His	Leu	Tyr	Glu	Leu	Ala	Ile	Gly	Ala	Thr	Ala
225					230					235					240
Val	Gly	Thr	Gly	Leu	Asn	Val	Pro	Glu	Gly	Phe	Val	Glu	Lys	Ile	Ile
				245					250					255	
His	Tyr	Leu	Arg	Lys	Glu	Thr	Asp	Glu	Pro	Phe	Ile	Pro	Ala	Ser	Asn
		260						265					270		
Tyr	Phe	Ser	Ala	Leu	Ser	Cys	His	Asp	Ala	Leu	Val	Asp	Ala	His	Gly
		275					280					285			
Ser	Leu	Ala	Thr	Leu	Ala	Cys	Ala	Leu	Thr	Lys	Ile	Ala	Thr	Asp	Leu
	290					295					300				
Ser	Phe	Leu	Gly	Ser	Gly	Pro	Arg	Cys	Gly	Leu	Gly	Glu	Leu	Phe	Phe
305					310					315					320
Pro	Glu	Asn	Glu	Pro	Gly	Ser	Ser	Ile	Met	Pro	Gly	Lys	Val	Asn	Pro
				325					330					335	
Thr	Gln	Cys	Glu	Ala	Leu	Gln	Met	Val	Cys	Ala	Gln	Val	Leu	Gly	Asn
			340					345					350		

Asn Gln Thr Val Ile Ile Gly Gly Ser Arg Gly Asn Phe Glu Leu Asn  
           355                          360                  365  
 Val Met Lys Pro Val Ile Ile Tyr Asn Phe Leu Gln Ser Val Asp Leu  
           370                          375                  380  
 Leu Ser Glu Gly Met Arg Ala Phe Ser Glu Phe Phe Val Lys Gly Leu  
 385                          390                  395                  400  
 Lys Val Asn Lys Ala Arg Leu Gln Asp Asn Ile Asn Asn Ser Leu Met  
                           405                  410                  415  
 Leu Val Thr Ala Leu Ala Pro Val Leu Gly Tyr Asp Lys Cys Ser Lys  
                           420                  425                  430  
 Ala Ala Leu Lys Ala Phe His Glu Ser Ile Ser Leu Lys Glu Ala Cys  
                           435                  440                  445  
 Leu Ala Leu Gly Tyr Leu Ser Glu Lys Glu Phe Asp Arg Leu Val Val  
           450                          455                  460  
 Pro Glu Asn Met Val Gly Asn His  
 465                          470

<210> 1015

<211> 575

<212> PRT

<213> Chlamydia pneumoniae

<400> 1015

Ala Leu Ala Ser Thr Leu Gly Tyr Cys Ile Val Lys Val Pro Trp Ala  
 1                          5                  10                  15  
 Phe Lys Asn Phe Ile Pro Lys Leu Tyr Thr Ser Ile Lys Glu Gly Tyr  
           20                          25                  30  
 Ser Phe Asn Thr Phe Lys Lys Asp Phe Gln Ala Gly Ile Thr Val Gly  
           35                          40                  45  
 Ile Leu Ala Phe Pro Phe Ala Ile Ala Ile Ala Gly Val Gly Val  
           50                          55                  60  
 Ser Pro Ile Gln Gly Leu Leu Ala Ser Ile Ile Gly Gly Leu Leu Ala  
 65                          70                  75                  80  
 Ser Ala Met Gly Gly Ser Asn Val Leu Ile Ser Gly Pro Ser Ser Ala  
                           85                  90                  95  
 Phe Ile Ser Ile Leu Tyr Cys Leu Ser Ala Lys Tyr Gly Ala Glu Ala  
                           100                  105                  110  
 Leu Phe Thr Val Thr Leu Leu Ala Gly Val Phe Leu Ile Ala Phe Gly  
           115                          120                  125  
 Leu Thr Gly Leu Gly Thr Phe Ile Lys Tyr Met Pro Tyr Pro Val Val  
           130                          135                  140  
 Thr Gly Leu Thr Thr Gly Leu Ala Ile Ile Ile Phe Ser Ser Gln Ile  
 145                          150                  155                  160  
 Lys Asp Phe Leu Gly Leu Gln Met Gly Ala Asn Ile Pro Ala Asp Phe  
                           165                  170                  175  
 Leu Pro Lys Trp Ile Ala Tyr Trp Asp His Leu Trp Thr Trp Asp Ser  
           180                          185                  190  
 Lys Ser Phe Ala Val Gly Leu Phe Thr Leu Leu Ile Met Ile Tyr Phe  
           195                          200                  205  
 Arg Asn Tyr Lys Pro Arg Tyr Pro Gly Val Met Ile Ala Ile Val Thr  
           210                          215                  220  
 Ala Thr Thr Leu Val Trp Leu Leu Lys Ile Asp Ile Pro Thr Ile Gly  
 225                          230                  235                  240  
 Ser Arg Tyr Gly Thr Leu Pro Thr Ala Ile Pro Leu Pro Lys Ile Pro  
                           245                  250                  255  
 Gln Leu Ser Ile Thr Lys Ile Leu Gln Leu Met Pro Asp Ala Leu Thr  
           260                          265                  270  
 Ile Ala Val Leu Ser Gly Leu Glu Thr Leu Leu Ser Ala Val Val Ala  
           275                          280                  285  
 Asp Gly Met Thr Gly Trp Arg His Gln Ser Asn Cys Gln Leu Val Ala  
 290                          295                  300

Gln Gly Val Ala Asn Ile Gly Thr Ser Leu Phe Ser Gly Ile Pro Val  
 305 310 315 320  
 Thr Gly Ser Leu Ser Arg Thr Ala Ala Ser Ile Lys Ser Glu Ala Thr  
 325 330 335  
 Thr Pro Ile Ala Gly Ile Val His Ser Ile Phe Ile Cys Phe Ile Leu  
 340 345 350  
 Leu Leu Leu Ala Pro Leu Thr Val Lys Ile Pro Leu Thr Cys Leu Ala  
 355 360 365  
 Ala Val Leu Ile Leu Ile Ala Trp Asn Met Ser Glu Ile His His Phe  
 370 375 380  
 Ile His Leu Phe Thr Ala Pro Lys Lys Asp Ile Val Val Leu Leu Thr  
 385 390 395 400  
 Val Phe Ile Leu Thr Val Met Thr Thr Ile Thr Ala Ala Val Gln Val  
 405 410 415  
 Gly Met Met Leu Ala Ala Phe Leu Phe Met Lys Gln Met Ser Asp Leu  
 420 425 430  
 Ser Asp Val Ile Ser Thr Ala Lys Tyr Phe Asp Lys Asp Ser Asp Phe  
 435 440 445  
 Leu Ser Lys Ala Glu Val Pro Gln Asn Thr Glu Ile Tyr Glu Ile Asn  
 450 455 460  
 Gly Pro Phe Phe Phe Gly Ile Ala Asp Arg Leu Lys Asn Leu Leu Asn  
 465 470 475 480  
 Asp Ile Glu Lys Pro Pro Lys Ile Phe Ile Leu Cys Met Thr Arg Val  
 485 490 495  
 Pro Thr Ile Asp Ala Ser Ala Met His Ala Leu Glu Glu Phe Phe Leu  
 500 505 510  
 Glu Cys Asp Arg Gln Gly Thr Leu Leu Leu Leu Ala Gly Val Lys Lys  
 515 520 525  
 Thr Pro Leu Ala Asp Leu Lys Arg Tyr His Leu Asp Glu Leu Ile Gly  
 530 535 540  
 Val Asp His Ile Phe Ser Asn Ile Lys Ser Ala Leu Leu Phe Ala Gln  
 545 550 555 560  
 Ala Leu Thr Asn Leu Glu Ser Lys Thr Ser Thr Arg His Leu Val  
 565 570 575

<210> 1016  
 <211> 448  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1016  
 Lys Asn Asn Tyr Lys Asn Phe Ser Phe Phe Thr Ser Val Arg Val Arg  
 1 5 10 15  
 Ser Lys Val Asp His Glu Ile Ile Leu Glu Val Thr Met Leu Lys Leu  
 20 25 30  
 Gln Leu Cys Ala Leu Phe Leu Phe Gly Tyr Leu Ala Ile Val Phe Glu  
 35 40 45  
 His Ile Val Arg Val Asn Lys Ser Ala Ile Ala Leu Ala Met Gly Gly  
 50 55 60  
 Leu Met Trp Leu Val Cys Phe Ser His Ile Pro Met Ala Asp His Met  
 65 70 75 80  
 Ile Leu Val Glu Glu Ile Ala Asp Met Ser Gln Val Ile Phe Phe Leu  
 85 90 95  
 Phe Ser Ala Met Ala Ile Val Glu Leu Ile Asp Ala His Lys Gly Phe  
 100 105 110  
 Ser Val Ile Val Lys Phe Cys Arg Ile Gln Ser Arg Thr Leu Leu Leu  
 115 120 125  
 Trp Ala Leu Ile Gly Leu Ser Phe Phe Leu Ser Ala Ala Leu Asp Asn  
 130 135 140  
 Leu Thr Ser Ile Ile Ile Ile Ile Ser Ile Leu Lys Arg Leu Val Lys  
 145 150 155 160

Ala	Arg	Glu	Asp	Arg	Leu	Leu	Leu	Gly	Ala	Ile	Cys	Val	Ile	Ala	Val
				165					170					175	
Asn	Ala	Gly	Gly	Ala	Trp	Thr	Pro	Leu	Gly	Asp	Val	Thr	Thr	Thr	Met
			180						185					190	
Leu	Trp	Ile	Asn	Asn	Lys	Ile	Thr	Ser	Trp	Gly	Ile	Ile	Arg	Ala	Leu
		195					200					205			
Phe	Val	Pro	Ser	Leu	Val	Cys	Val	Leu	Val	Ala	Gly	Phe	Cys	Gly	Gln
	210					215					220				
Phe	Phe	Leu	Arg	Lys	Arg	Gly	Ser	Thr	Leu	Ile	Ala	Lys	Asp	Val	Glu
225					230					235					240
Leu	Gln	Ser	Ala	Pro	Pro	Lys	Ser	Leu	Trp	Ile	Ile	Phe	Ile	Gly	Leu
				245					250					255	
Gly	Ser	Leu	Leu	Met	Val	Pro	Val	Trp	Lys	Ala	Cys	Leu	Gly	Leu	Pro
		260						265					270		
Pro	Phe	Met	Gly	Ala	Leu	Leu	Gly	Leu	Gly	Leu	Val	Trp	Leu	Thr	Ser
		275					280					285			
Asp	Trp	Ile	His	Ser	Pro	His	Gly	Glu	Asp	Arg	Tyr	His	Leu	Arg	Val
	290					295					300				
Pro	His	Ile	Leu	Thr	Lys	Ile	Asp	Ile	Ser	Ser	Ile	Thr	Phe	Phe	Ile
305					310					315					320
Gly	Ile	Leu	Leu	Ala	Val	Asn	Ala	Leu	Ser	Phe	Ala	Asn	Leu	Leu	Thr
				325					330					335	
Asp	Phe	Ser	Leu	Trp	Met	Asp	Lys	Ile	Phe	Ser	Arg	Asn	Val	Val	Ala
		340						345					350		
Ile	Val	Ile	Gly	Leu	Leu	Ser	Ser	Val	Leu	Asp	Asn	Val	Pro	Leu	Val
		355					360					365			
Ala	Ala	Thr	Met	Gly	Met	Tyr	Thr	Leu	Pro	Leu	Asp	Asp	Thr	Leu	Trp
	370					375					380				
Lys	Leu	Ile	Ala	Tyr	Ala	Ala	Gly	Thr	Gly	Gly	Ser	Ile	Leu	Ile	Ile
385					390					395					400
Gly	Ser	Ala	Ala	Gly	Val	Ala	Phe	Met	Gly	Leu	Glu	Lys	Val	Asp	Phe
				405					410					415	
Leu	Trp	Tyr	Phe	Lys	Arg	Ile	Ser	Trp	Ile	Ala	Leu	Ala	Ser	Tyr	Phe
		420						425					430		
Gly	Gly	Leu	Phe	Ser	Tyr	Phe	Val	Leu	Glu	Ser	Leu	Asn	Phe	Phe	Ile
		435					440					445			

<210> 1017

<211> 624

<212> PRT

<213> Chlamydia pneumoniae

<400> 1017

Lys	Arg	Glu	Val	Phe	Met	Lys	Lys	Gly	Lys	Leu	Gly	Ala	Ile	Val	Phe
1				5					10					15	
Gly	Leu	Leu	Phe	Thr	Ser	Ser	Val	Ala	Gly	Phe	Ser	Lys	Asp	Leu	Thr
			20					25					30		
Lys	Asp	Asn	Ala	Tyr	Gln	Asp	Leu	Asn	Val	Ile	Glu	His	Leu	Ile	Ser
	35						40					45			
Leu	Lys	Tyr	Ala	Pro	Leu	Pro	Trp	Lys	Glu	Leu	Leu	Phe	Gly	Trp	Asp
	50					55					60				
Leu	Ser	Gln	Gln	Thr	Gln	Gln	Ala	Arg	Leu	Gln	Leu	Val	Leu	Glu	Glu
65					70					75					80
Lys	Pro	Thr	Thr	Asn	Tyr	Cys	Gln	Lys	Val	Leu	Ser	Asn	Tyr	Val	Arg
				85					90					95	
Ser	Leu	Asn	Asp	Tyr	His	Ala	Gly	Ile	Thr	Phe	Tyr	Arg	Thr	Glu	Ser
			100					105					110		
Ala	Tyr	Ile	Pro	Tyr	Val	Leu	Lys	Leu	Ser	Glu	Asp	Gly	His	Val	Phe
		115					120					125			
Val	Val	Asp	Val	Gln	Thr	Ser	Gln	Gly	Asp	Ile	Tyr	Leu	Gly	Asp	Glu
	130						135					140			



Ile	Leu	Glu	Val	Asp	Gly	Met	Gly	Ile	Arg	Glu	Ala	Ile	Glu	Ser	Leu
145					150					155					160
Arg	Phe	Gly	Arg	Gly	Ser	Ala	Thr	Asp	Tyr	Ser	Ala	Ala	Val	Arg	Ser
				165					170						175
Leu	Thr	Ser	Arg	Ser	Ala	Ala	Phe	Gly	Asp	Ala	Val	Pro	Ser	Gly	Ile
			180					185						190	
Ala	Met	Leu	Lys	Leu	Arg	Arg	Pro	Ser	Gly	Leu	Ile	Arg	Ser	Thr	Pro
	195						200					205			
Val	Arg	Trp	Arg	Tyr	Thr	Pro	Glu	His	Ile	Gly	Asp	Phe	Ser	Leu	Val
	210					215					220				
Ala	Pro	Leu	Ile	Pro	Glu	His	Lys	Pro	Gln	Leu	Pro	Thr	Gln	Ser	Cys
225					230					235					240
Val	Leu	Phe	Arg	Ser	Gly	Val	Asn	Ser	Gln	Ser	Ser	Ser	Ser	Ser	Leu
				245					250					255	
Phe	Ser	Ser	Tyr	Met	Val	Pro	Tyr	Phe	Trp	Glu	Glu	Leu	Arg	Val	Gln
			260					265						270	
Asn	Lys	Gln	Arg	Phe	Asp	Ser	Asn	His	His	Ile	Gly	Ser	Arg	Asn	Gly
	275						280					285			
Phe	Leu	Pro	Thr	Phe	Gly	Pro	Ile	Leu	Trp	Glu	Gln	Asp	Lys	Gly	Pro
	290					295					300				
Tyr	Arg	Ser	Tyr	Ile	Phe	Lys	Ala	Lys	Asp	Ser	Gln	Gly	Asn	Pro	His
305					310					315					320
Arg	Ile	Gly	Phe	Leu	Arg	Ile	Ser	Ser	Tyr	Val	Trp	Thr	Asp	Leu	Glu
				325					330					335	
Gly	Leu	Glu	Glu	Asp	His	Lys	Asp	Ser	Pro	Trp	Glu	Leu	Phe	Gly	Glu
			340					345					350		
Ile	Ile	Asp	His	Leu	Glu	Lys	Glu	Thr	Asp	Ala	Leu	Ile	Ile	Asp	Gln
	355						360					365			
Thr	His	Asn	Pro	Gly	Gly	Ser	Val	Phe	Tyr	Leu	Tyr	Ser	Leu	Leu	Ser
	370					375					380				
Met	Leu	Thr	Asp	His	Pro	Leu	Asp	Thr	Pro	Lys	His	Arg	Met	Ile	Phe
385					390					395					400
Thr	Gln	Asp	Glu	Val	Ser	Ser	Ala	Leu	His	Trp	Gln	Asp	Leu	Leu	Glu
				405					410					415	
Asp	Val	Phe	Thr	Asp	Glu	Gln	Ala	Val	Ala	Val	Leu	Gly	Glu	Thr	Met
			420					425					430		
Glu	Gly	Tyr	Cys	Met	Asp	Met	His	Ala	Val	Ala	Ser	Leu	Gln	Asn	Phe
	435					440					445				
Ser	Gln	Ser	Val	Leu	Ser	Ser	Trp	Val	Ser	Gly	Asp	Ile	Asn	Leu	Ser
	450					455				460					
Lys	Pro	Met	Pro	Leu	Leu	Gly	Phe	Ala	Gln	Val	Arg	Pro	His	Pro	Lys
465					470					475					480
His	Gln	Tyr	Thr	Lys	Pro	Leu	Phe	Met	Leu	Ile	Asp	Glu	Asp	Asp	Phe
				485					490					495	
Ser	Cys	Gly	Asp	Leu	Ala	Pro	Ala	Ile	Leu	Lys	Asp	Asn	Gly	Arg	Ala
			500					505					510		
Thr	Leu	Ile	Gly	Lys	Pro	Thr	Ala	Gly	Ala	Gly	Gly	Phe	Val	Phe	Gln
	515						520					525			
Val	Thr	Phe	Pro	Asn	Arg	Ser	Gly	Ile	Lys	Gly	Leu	Ser	Leu	Thr	Gly
	530					535					540				
Ser	Leu	Ala	Val	Arg	Lys	Asp	Gly	Glu	Phe	Ile	Glu	Asn	Leu	Gly	Val
545					550					555					560
Ala	Pro	His	Ile	Asp	Leu	Gly	Phe	Thr	Ser	Arg	Asp	Leu	Gln	Thr	Ser
				565					570					575	
Arg	Phe	Thr	Asp	Tyr	Val	Glu	Ala	Val	Lys	Thr	Ile	Val	Leu	Thr	Ser
			580					585					590		
Leu	Ser	Glu	Asn	Ala	Lys	Lys	Ser	Glu	Glu	Gln	Thr	Ser	Pro	Gln	Glu
	595						600					605			
Thr	Pro	Glu	Val	Ile	Arg	Val	Ser	Tyr	Pro	Thr	Thr	Ser	Ala	Ser	
	610					615						620			

<210> 1018  
 <211> 313  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1018  
 Val Ile Ile Met Arg Lys Leu Ile Leu Cys Asn Pro Arg Gly Phe Cys  
 1 5 10 15  
 Ser Gly Val Val Arg Ala Ile Gln Val Val Glu Val Ala Leu Glu Lys  
 20 25 30  
 Trp Gly Ala Pro Ile Tyr Val Lys His Glu Ile Val His Asn Arg His  
 35 40 45  
 Val Val Asn Ala Leu Arg Ala Lys Gly Ala Ile Phe Val Glu Glu Leu  
 50 55 60  
 Val Asp Val Pro Glu Gly Glu Arg Val Ile Tyr Ser Ala His Gly Ile  
 65 70 75 80  
 Pro Pro Ser Val Arg Ala Glu Ala Lys Ala Arg Lys Leu Ile Asp Ile  
 85 90 95  
 Asp Ala Thr Cys Gly Leu Val Thr Lys Val His Ser Ala Ala Lys Leu  
 100 105 110  
 Tyr Ala Ser Lys Gly Tyr Lys Ile Ile Leu Ile Gly His Lys Lys His  
 115 120 125  
 Val Glu Val Ile Gly Ile Val Gly Glu Val Pro Glu His Ile Thr Val  
 130 135 140  
 Val Glu Lys Val Ala Asp Val Glu Ala Leu Pro Phe Ser Ser Asp Thr  
 145 150 155 160  
 Pro Leu Phe Tyr Ile Thr Gln Thr Thr Leu Ser Leu Asp Asp Val Gln  
 165 170 175  
 Glu Ile Ser Ser Ala Leu Leu Lys Arg Tyr Pro Ser Ile Ile Thr Leu  
 180 185 190  
 Pro Ser Ser Ser Ile Cys Tyr Ala Thr Thr Asn Arg Gln Lys Ala Leu  
 195 200 205  
 Arg Ser Val Leu Ser Arg Val Asn Tyr Val Tyr Val Val Gly Asp Val  
 210 215 220  
 Asn Ser Ser Asn Ser Asn Arg Leu Arg Glu Val Ala Leu Arg Arg Gly  
 225 230 235 240  
 Val Pro Ala Asp Leu Ile Asn Asn Pro Glu Asp Ile Asp Thr Asn Ile  
 245 250 255  
 Val Asn His Ser Gly Asp Ile Ala Met Thr Ala Gly Ala Ser Thr Pro  
 260 265 270  
 Glu Asp Val Val Gln Ala Cys Ile Arg Lys Leu Ser Ser Leu Ile Pro  
 275 280 285  
 Gly Leu Gln Val Glu Asn Asp Ile Phe Ala Val Glu Asp Val Val Phe  
 290 295 300  
 Gln Leu Pro Lys Glu Leu Arg Cys Ser  
 305 310

<210> 1019  
 <211> 245  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1019  
 Arg Met Ser Tyr Phe Asn Tyr Gln Lys Asn Ser Val Val Leu Arg Ser  
 1 5 10 15  
 Leu Gly Leu Leu Ala Lys Phe Phe Ser Arg Leu Leu Tyr Arg Val Phe  
 20 25 30  
 Phe Ser Phe Arg Glu Gly Ile Tyr Leu Phe Ser Ser Leu Tyr Leu Lys  
 35 40 45  
 Tyr Pro Arg Leu Phe Phe Tyr Asp Leu Gly Lys Tyr Val Tyr Ser Leu  
 50 55 60

Arg	His	Cys	Pro	Tyr	Ala	Lys	Leu	Gly	Arg	Leu	Pro	Gly	Ala	Ser	Leu
65					70					75				80	
Leu	Lys	Glu	Gly	Asn	Val	Tyr	Gly	Glu	Thr	Pro	Trp	Ser	Val	Leu	Ala
				85					90					95	
Lys	Ile	Cys	Gln	Ala	Phe	Asp	Ile	Thr	Ser	Gln	Asp	Ile	Leu	Tyr	Asp
			100					105					110		
Leu	Gly	Cys	Gly	Leu	Gly	Lys	Val	Cys	Phe	Trp	Phe	Ser	His	Val	Val
		115					120					125			
Arg	Cys	Gln	Val	Ile	Gly	Ile	Asp	Asn	Gln	Pro	His	Phe	Ile	Arg	Phe
	130					135					140				
Ser	Ser	Asn	Met	His	Arg	Lys	Leu	Ser	Ser	Gly	Phe	Ala	Leu	Phe	Asp
145					150					155				160	
Thr	Glu	Glu	Phe	Lys	Asn	Val	Val	Leu	Ser	Gln	Ala	Ser	Tyr	Val	Tyr
				165					170					175	
Phe	Tyr	Gly	Ser	Ser	Phe	Ser	Arg	Arg	Leu	Leu	Asn	Glu	Ile	Ile	Leu
			180					185					190		
Lys	Leu	Ser	Glu	Met	Ala	Pro	Gly	Ser	Val	Val	Ile	Ser	Ile	Ser	Phe
	195						200					205			
Pro	Leu	Asp	Ser	Phe	Ser	Arg	Gly	Lys	Glu	Cys	Phe	Phe	Thr	Glu	Lys
	210					215					220				
Ser	Cys	Ser	Val	Arg	Phe	Pro	Trp	Gly	Lys	Thr	Ile	Ala	Tyr	Lys	Asn
225					230					235				240	
Ile	Arg	Lys	Gly	Ser											
				245											

<210> 1020

<211> 503

<212> PRT

<213> Chlamydia pneumoniae

<400> 1020

Ile	His	Arg	Arg	Asn	Ile	Met	Thr	Val	Ser	Tyr	Gln	Ser	Ile	Ser	Thr
1				5					10				15		
Pro	Pro	Pro	Glu	Gly	Glu	Phe	Asp	Ile	Phe	Val	Asp	Gly	Asn	Ala	Thr
			20					25					30		
Glu	Glu	Ala	Val	Val	Ala	Ala	Glu	Val	Gln	Val	Ala	Leu	Pro	Ala	Gly
		35					40					45			
Glu	Gln	Tyr	Ala	Met	Leu	Arg	Ala	Thr	Ser	Glu	Leu	Cys	Phe	Gly	Ile
	50					55					60				
Leu	Thr	Gln	Ser	Glu	Cys	Ala	Leu	Thr	Gln	Ala	Leu	Pro	Pro	Lys	Glu
65					70					75				80	
Lys	Pro	Leu	Gln	Glu	Glu	Gln	Phe	Leu	Val	Lys	Asn	Gly	Ile	Leu	Met
				85					90					95	
Arg	Ser	Thr	Ser	Leu	Pro	Asn	Leu	Lys	Pro	Gly	Gln	Ser	Gln	Gln	Thr
			100					105					110		
Ser	Leu	Ala	Ser	His	Arg	Asn	Pro	Leu	Ala	Gln	Gln	Ser	Thr	Ser	Ser
			115				120					125			
Asn	Ser	Thr	Gly	Lys	Ala	Ser	Thr	Glu	Thr	Thr	Ser	Ser	Ser	Phe	Pro
	130					135					140				
Phe	Phe	Ser	Cys	Lys	Ala	Pro	Glu	Gly	Asp	Ser	Ser	Val	Asp	Lys	Thr
145					150					155				160	
Phe	Thr	Val	Ser	Val	Gln	Thr	Pro	Lys	Ala	Gln	Glu	Gln	Gln	Glu	Ala
				165					170					175	
Ser	Ala	Ser	Gln	Ser	Gln	Ala	Gln	Phe	His	Val	Arg	Ser	Tyr	Ser	Ser
			180					185					190		
Ser	Thr	Ile	Lys	Glu	His	Ser	Ala	Lys	Glu	Lys	Val	Ser	Gln	Ser	Thr
			195				200					205			
Lys	Ser	Ala	Glu	Thr	Gln	Lys	His	Thr	Gln	Thr	Lys	Ser	Asp	Ala	Thr
	210					215					220				
Leu	Ser	Pro	Met	Ser	Leu	Tyr	Ser	Thr	Leu	His	Lys	Glu	Val	Pro	Gln
225					230					235				240	



His Leu Gln Gln His Leu Lys Leu Phe Gly Thr Val Asp Ser Leu Tyr  
 165 170 175  
 Ser Gln Ser Leu Asp Ser Glu Gln Gln Glu Leu Leu Gln Ser Arg Arg  
 180 185 190  
 Glu Glu Arg Ser Glu Thr Tyr Ala Asn Gln Gln Ser Ser Glu Lys Lys  
 195 200 205  
 Ile Glu Thr Lys Val Gln Ile Lys Asp Leu Cys Lys Asp Leu Phe Ser  
 210 215 220  
 Gln Asp Gln Asp Ser Asn Gln Lys Gln Lys Lys Ser Pro Phe Gln Gln  
 225 230 235 240  
 Asp Thr Ser Arg Lys Asn Arg Ile Ala Lys Ala Ala Gln Ala Val Pro  
 245 250 255  
 Val Ile Pro Pro Ser Ile Gly Val Phe Thr Leu Ser Tyr Leu Leu  
 260 265 270  
 Thr Lys Gln Gly Ile Leu Ser Asp Phe Ser Ser Tyr Gly Cys His Lys  
 275 280 285  
 Asp Ser Val Glu Ser Thr Gln Arg Glu Leu Asp Ala Leu His Glu Lys  
 290 295 300  
 Arg Ile Glu Thr Ile Lys Val Ser Ile Glu Lys Glu Lys Arg Glu Arg  
 305 310 315 320  
 Leu Trp Gly Ser Leu Ser Asp Ile Ile Gly Trp Leu Ala Pro Phe Val  
 325 330 335  
 Ser Ile Gly Ile Gly Ile Val Ala Ile Leu Ser Gly Gly Gly Ile Phe  
 340 345 350  
 Ala Phe Ala Gly Phe Phe Ala Gly Leu Ile Ser Leu Val Ile Lys Cys  
 355 360 365  
 Leu Glu Lys Leu Lys Phe Trp Asp Trp Leu Glu Lys His Leu Pro Ile  
 370 375 380  
 Lys Asn Glu Glu Leu Arg Arg Lys Ile Ile Thr Ile Ile Gln Trp Val  
 385 390 395 400  
 Val Tyr Leu Thr Pro Val Ile Leu Ser Ile Cys Thr Leu Lys Val Glu  
 405 410 415  
 Asn Leu Gly Phe Ser Pro Ile Ile Glu Gly Ala Ile Lys Gly Ile Gln  
 420 425 430  
 Pro Ala Ile Glu Ser Thr Met Ala Ala Leu Arg Cys Ala Ile Leu Phe  
 435 440 445  
 Ser Gln Ala Glu Ile Tyr Lys Leu Lys Gly Lys Leu Thr Lys Ile Gln  
 450 455 460  
 Leu Asp Ile Glu Leu Lys Ser Phe Asp Arg Asp Asp His Tyr Glu Arg  
 465 470 475 480  
 Ser Gln Glu Leu Leu Asp Asn Met Glu Ser Ser Phe Glu Ala Leu Ser  
 485 490 495  
 Arg Ile Leu Asn Tyr Met Arg Glu Leu Asp Gln Val Tyr Leu His Ser  
 500 505 510  
 Leu Arg Gly  
 515

<210> 1022  
 <211> 191  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1022  
 Cys Ile Glu Val Ile Glu Arg Thr Tyr Gly His Leu His Leu Gln Pro  
 1 5 10 15  
 Thr Pro Leu Met Ser His Leu Asn Tyr Leu Leu Glu Lys Ile Ala Ala  
 20 25 30  
 Ser Ser Lys Glu Asp Phe Pro Phe Pro Asp Asp Leu Glu Ser Tyr Leu  
 35 40 45  
 Glu Gly Tyr Val Pro Asp Lys Asn Ile Ala Leu Asp Thr Tyr Gln Lys  
 50 55 60

Ile Phe Lys Ile Ser Ser Glu Asp Leu Glu Lys Val Tyr Lys Glu Gly  
 65 70 75 80  
 Tyr His Ala Tyr Leu Asp Lys Asp Tyr Ala Lys Ser Ile Thr Val Phe  
 85 90 95  
 Arg Trp Leu Val Phe Phe Asn Pro Phe Val Ser Lys Phe Trp Phe Ser  
 100 105 110  
 Leu Gly Ala Ser Leu His Met Ser Glu Gln Tyr Ser Gln Ala Leu His  
 115 120 125  
 Ala Tyr Gly Val Thr Ala Val Leu Arg Asp Lys Asp Pro Tyr Pro His  
 130 135 140  
 Tyr Tyr Ala Tyr Ile Cys Tyr Thr Leu Thr Asn Glu His Glu Glu Ala  
 145 150 155 160  
 Glu Lys Ala Leu Glu Met Ala Trp Val Arg Ala Gln His Lys Pro Leu  
 165 170 175  
 Tyr Asn Glu Leu Lys Glu Glu Ile Leu Asp Ile Arg Lys His Lys  
 180 185 190

<210> 1023

<211> 498

<212> PRT

<213> Chlamydia pneumoniae

<400> 1023

Phe Ser Phe Phe Phe Tyr Ala Leu Lys Leu Gln Ile Met Asn Met Pro  
 1 5 10 15  
 Val Pro Ser Ala Val Pro Ser Ala Asn Ile Thr Leu Lys Glu Asp Ser  
 20 25 30  
 Ser Thr Val Ser Thr Ala Ser Gly Ile Leu Lys Thr Ala Thr Gly Glu  
 35 40 45  
 Val Leu Val Ser Cys Thr Ala Leu Glu Gly Ser Ser Thr Asp Ala  
 50 55 60  
 Leu Ile Ser Leu Ala Leu Gly Gln Ile Ile Leu Ala Thr Gln Gln Glu  
 65 70 75 80  
 Leu Leu Leu Gln Ser Thr Asn Val His Gln Leu Leu Phe Leu Pro Pro  
 85 90 95  
 Glu Val Val Glu Leu Glu Ile Gln Val Val Asp Leu Leu Val Gln Leu  
 100 105 110  
 Glu His Ala Glu Thr Ile Thr Ser Glu Pro Gln Glu Thr Gln Thr Gln  
 115 120 125  
 Ser Arg Ser Glu Gln Thr Leu Pro Gln Gln Ser Ser Ser Lys Gln Ser  
 130 135 140  
 Ala Leu Ser Pro Arg Ser Leu Lys Pro Glu Ile Ser Asp Ser Lys Gln  
 145 150 155 160  
 Gln Gln Ala Leu Gln Thr Pro Lys Asp Ser Ala Val Arg Lys His Ser  
 165 170 175  
 Glu Ala Pro Ser Pro Glu Thr Gln Ala Arg Ala Ser Leu Ser Gln Ala  
 180 185 190  
 Ser Ser Ser Ser Gln Arg Ser Leu Pro Pro Gln Glu Ser Ala Pro Glu  
 195 200 205  
 Arg Thr Leu Leu Glu Gln Gln Lys Ala Ser Ser Phe Ser Pro Leu Ser  
 210 215 220  
 Gln Phe Ser Ala Glu Lys Gln Lys Glu Ala Leu Thr Thr Ser Lys Ser  
 225 230 235 240  
 His Glu Leu Tyr Lys Glu Arg Asp Gln Asp Arg Gln Gln Arg Glu Gln  
 245 250 255  
 His Asp Arg Lys His Asp Gln Glu Glu Asp Ala Glu Ser Lys Lys Lys  
 260 265 270  
 Lys Lys Lys Arg Gly Leu Gly Val Glu Ala Val Ala Glu Glu Pro Gly  
 275 280 285  
 Glu Asn Leu Asp Ile Ala Ala Leu Ile Phe Ser Asp Gln Met Arg Pro  
 290 295 300

Pro Ala Glu Glu Thr Ser Lys Lys Glu Thr Thr Phe Lys Lys Lys Leu  
 305 310 315 320  
 Pro Ser Pro Met Ser Val Phe Ser Arg Phe Ile Pro Ser Lys Asn Pro  
 325 330 335  
 Leu Ser Val Gly Ser Ser Ile His Gly Pro Ile Gln Thr Pro Lys Val  
 340 345 350  
 Glu Asn Val Phe Leu Arg Phe Met Lys Leu Met Ala Arg Ile Leu Gly  
 355 360 365  
 Gln Ala Glu Ala Glu Ala Asn Glu Leu Tyr Met Arg Val Lys Gln Arg  
 370 375 380  
 Thr Asp Asp Val Asp Thr Leu Thr Val Leu Ile Ser Lys Ile Asn Asn  
 385 390 395 400  
 Glu Lys Lys Asp Ile Asp Trp Ser Glu Asn Glu Glu Met Lys Ala Leu  
 405 410 415  
 Leu Asn Arg Ala Lys Glu Ile Gly Val Thr Ile Asp Lys Glu Lys Tyr  
 420 425 430  
 Thr Trp Thr Glu Glu Glu Lys Arg Leu Leu Lys Glu Asn Val Gln Met  
 435 440 445  
 Arg Lys Glu Asn Met Glu Lys Ile Thr Gln Met Glu Arg Thr Asp Met  
 450 455 460  
 Gln Arg His Leu Gln Glu Ile Ser Gln Cys His Gln Ala Arg Ser Asn  
 465 470 475 480  
 Val Leu Lys Leu Leu Lys Glu Leu Met Asp Thr Phe Ile Tyr Asn Leu  
 485 490 495  
 Arg Pro

<210> 1024  
 <211> 108  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1024  
 Gly Leu Asp Phe Leu Glu Ile Phe Ile Met Lys Lys Val Val Thr Leu  
 1 5 10 15  
 Ser Ile Ile Phe Phe Ala Thr Tyr Cys Ala Ser Glu Leu Ser Ala Val  
 20 25 30  
 Thr Val Val Ala Val Pro Leu Ser Glu Ala Pro Gly Lys Ile Gln Val  
 35 40 45  
 Arg Pro Val Val Gly Leu Gln Phe Gln Glu Glu Gln Gly Ser Val Pro  
 50 55 60  
 Tyr Ser Phe Tyr Tyr Pro Tyr Asp Tyr Gly Tyr Tyr Tyr Pro Glu Thr  
 65 70 75 80  
 Tyr Gly Tyr Thr Lys Asn Thr Gly Gln Glu Ser Arg Glu Cys Tyr Thr  
 85 90 95  
 Arg Phe Glu Asp Gly Thr Ile Phe Tyr Glu Cys Asp  
 100 105

<210> 1025  
 <211> 328  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1025  
 Ile Phe Phe Phe Pro Trp Phe Ser Leu Cys Ser Leu Lys Ile Ala Pro  
 1 5 10 15  
 Leu Pro Ile Leu Lys Leu His Ser Leu Ala Ser Met Thr Met Pro Ser  
 20 25 30  
 Thr Gln Phe His Thr Thr Ile Leu Glu Gln Phe Ser Leu Phe Leu Ser  
 35 40 45

Val	Asp	Arg	Gly	Leu	Cys	Gln	Gln	Ser	Ile	Ala	Ala	Tyr	Arg	Gln	Asp
50						55					60				
Ile	Ser	Ser	Phe	Leu	Thr	Ile	Ser	Ala	Ile	Ser	Ser	Pro	Gln	Asp	Ile
65						70				75				80	
Ser	Gln	Asn	Ser	Val	Tyr	Ile	Phe	Ala	Glu	Glu	Leu	Tyr	Arg	Arg	Lys
				85					90					95	
Glu	Ala	Glu	Thr	Thr	Leu	Ala	Arg	Arg	Leu	Ile	Ala	Leu	Lys	Val	Phe
			100					105					110		
Phe	Leu	Phe	Leu	Lys	Asp	Gln	Gln	Leu	Leu	Pro	Tyr	Pro	Pro	Ile	Ile
			115					120					125		
Glu	His	Pro	Lys	Ile	Trp	Lys	Arg	Leu	Pro	Ser	Val	Leu	Thr	Pro	Gln
130						135					140				
Glu	Val	Asp	Ala	Leu	Leu	Ala	Val	Pro	Leu	Gln	Met	Glu	Lys	Asn	Pro
145					150					155				160	
Arg	His	Leu	Ala	Phe	Arg	Asp	Thr	Ala	Ile	Leu	His	Thr	Leu	Tyr	Ser
				165					170					175	
Thr	Gly	Val	Arg	Val	Ser	Glu	Leu	Cys	Asp	Leu	Arg	Leu	Gly	His	Val
				180				185					190		
Ser	Asp	Asp	Cys	Ile	Arg	Val	Thr	Gly	Lys	Gly	Ser	Lys	Thr	Arg	Leu
			195				200					205			
Val	Pro	Leu	Gly	Ser	Arg	Ala	Arg	Glu	Ala	Ile	Asp	Ala	Tyr	Leu	Cys
210						215					220				
Pro	Phe	Arg	Asp	Gln	Tyr	Gln	Lys	Lys	Asn	Pro	His	Glu	Asp	His	Leu
225					230					235				240	
Phe	Leu	Ser	Thr	Arg	Gly	His	Lys	Leu	Glu	Arg	Ser	Cys	Val	Trp	Arg
				245					250					255	
Arg	Ile	His	Asn	Tyr	Ala	Lys	Gln	Val	Thr	Ser	Lys	Pro	Val	Ser	Pro
			260					265					270		
His	Ser	Leu	Arg	His	Ala	Phe	Ala	Thr	His	Leu	Leu	Asp	Asn	Lys	Ala
			275				280					285			
Asp	Leu	Arg	Val	Ile	Gln	Glu	Met	Leu	Gly	His	Ala	Arg	Ile	Ala	Ser
290					295					300					
Thr	Glu	Val	Tyr	Thr	His	Val	Ala	Ala	Asp	Ser	Leu	Ile	Glu	Lys	Phe
305					310					315					320
Leu	Ala	His	His	Pro	Arg	Asn	Leu								
				325											

<210> 1026

<211> 538

<212> PRT

<213> Chlamydia pneumoniae

<400> 1026

Gly	Ala	Glu	Gln	Phe	Ser	Ser	Tyr	Arg	Glu	Lys	Thr	Met	Glu	Arg	Lys
1				5					10					15	
Arg	Phe	Ile	Asp	Cys	Asp	Ser	Thr	Lys	Ile	Leu	Gln	Glu	Leu	Ala	Leu
			20					25					30		
Asn	Pro	Leu	Asp	Leu	Thr	Ala	Pro	Gly	Val	Leu	Ser	Ala	Glu	Arg	Ile
		35				40						45			
Lys	Lys	Phe	Ser	Leu	Leu	Gly	Gly	Gly	Phe	Thr	Phe	Ser	Phe	Ala	Thr
50					55					60					
Glu	Arg	Leu	Asp	Asp	Ala	Ile	Leu	Ala	Ala	Leu	Ile	Ser	Leu	Ala	Glu
65					70					75				80	
Glu	Arg	Gly	Leu	His	Glu	Ser	Met	Leu	Ala	Met	Gln	Gln	Gly	Gln	Val
				85					90					95	
Val	Asn	Tyr	Ile	Glu	Gly	Phe	Pro	Ser	Glu	Met	Arg	Pro	Ala	Leu	His
			100					105					110		
Thr	Ala	Thr	Arg	Ala	Trp	Val	Thr	Asp	Ser	Ser	Phe	Thr	Gly	Glu	Ala
		115					120						125		
Glu	Asp	Ile	Ala	Val	Arg	Ser	Arg	Val	Glu	Ala	Gln	Arg	Leu	Lys	Asp
130						135					140				



Phe Leu Thr Lys Val Arg Ser Gln Phe Thr Thr Ile Val Gln Ile Gly 145 150 155 160  
 Ile Gly Gly Ser Glu Leu Gly Pro Lys Ala Leu Tyr Arg Ala Leu Arg 165 170 175  
 Ala Tyr Cys Pro Thr Asp Lys His Val His Phe Ile Ser Asn Ile Asp 180 185 190  
 Pro Asp Asn Gly Ala Glu Val Leu Asp Thr Ile Asp Cys Ala Lys Ala 195 200 205  
 Leu Val Val Val Val Ser Lys Ser Gly Thr Thr Ile Glu Thr Ala Val 210 215 220  
 Asn Glu Ala Phe Phe Ala Asp Tyr Phe Ala Lys Lys Gly Leu Ser Phe 225 230 235 240  
 Lys Asp His Phe Ile Ala Val Thr Cys Glu Gly Ser Pro Met Asp Asp 245 250 255  
 Thr Gly Lys Tyr Leu Glu Val Phe His Leu Trp Glu Ser Ile Gly Gly 260 265 270  
 Arg Phe Ser Ser Thr Ser Met Val Gly Gly Val Val Leu Gly Phe Ala 275 280 285  
 Tyr Gly Phe Glu Val Phe Leu Gln Leu Leu Gln Gly Ala Ser Ala Met 290 295 300  
 Asp Gln Ile Ala Leu Gln Pro Asn Ala Arg Glu Asn Leu Pro Met Leu 305 310 315 320  
 Ser Ala Leu Ile Ser Ile Trp Asn Arg Asn Phe Leu Gly Tyr Pro Thr 325 330 335  
 Glu Ala Val Ile Pro Tyr Ser Ser Gly Leu Glu Phe Phe Pro Ala His 340 345 350  
 Leu Gln Gln Cys Cys Met Glu Ser Asn Gly Lys Ser Ile Ala Gln Asp 355 360 365  
 Gly Arg Arg Val Gly Phe Ser Thr Ser Pro Val Ile Trp Gly Glu Pro 370 375 380  
 Gly Thr Asn Gly Gln His Ser Phe Phe Gln Cys Leu His Gln Gly Thr 385 390 395 400  
 Asp Ile Ile Pro Val Glu Phe Ile Gly Phe Glu Lys Ser Gln Lys Gly 405 410 415  
 Glu Asp Ile Ser Phe Gln Gly Thr Thr Ser Ser Gln Lys Leu Phe Ala 420 425 430  
 Asn Met Ile Ala Gln Ala Ile Ala Leu Ala Cys Gly Ser Glu Asn Thr 435 440 445  
 Asn Pro Asn Lys Asn Phe Asp Gly Asn Arg Pro Ser Ser Val Leu Val 450 455 460  
 Ser Ser Gln Leu Asn Pro Tyr Ser Leu Gly Glu Leu Leu Ser Tyr Tyr 465 470 475 480  
 Glu Asn Lys Ile Val Phe Gln Gly Leu Cys Trp Gly Ile Asn Ser Phe 485 490 495  
 Asp Gln Glu Gly Val Ser Leu Gly Lys Ala Leu Ala Asn Arg Val Leu 500 505 510  
 Glu Leu Leu Glu Gly Ala Asp Ala Ser Asn Phe Pro Glu Ala Ala Ser 515 520 525  
 Leu Leu Thr Leu Phe Asn Ile Lys Phe Arg 530 535

<210> 1027

<211> 59

<212> PRT

<213> Chlamydia pneumoniae

<400> 1027

Cys Ser Phe Gly Phe Gly Lys Ile Cys Glu Asp Arg Met Phe Phe Ile  
 1 5 10 15  
 Ala Val Arg Ser Arg Gly Phe Leu Asp Ile His Gly Ile Leu Ala Ala  
 20 25 30

Arg Lys Gly Lys Gln Val Val Lys Ser Thr Ala Gly Ala Trp Ile Gly  
 35 40 45  
 Ser Arg Gly Ala Val Phe Tyr Ser Leu Val Ser  
 50 55

<210> 1028  
 <211> 528  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1028

Asn Met Pro Gly Ser Val Ser Ser Pro Pro Leu Ser Pro Val Ile Val  
 1 5 10 15  
 Arg Glu Arg Val Pro Ser Ser Ser Gly Ser Asp Leu Ile Gln Pro His  
 20 25 30  
 Ala Val Leu Lys Ile Ser Ile Leu Ile Phe Ala Leu Val Thr Ile Leu  
 35 40 45  
 Gly Ile Val Leu Val Val Leu Ser Ser Ala Leu Gly Ala Leu Pro Ser  
 50 55 60  
 Leu Val Leu Thr Val Ser Gly Cys Ile Ala Ile Ala Val Gly Leu Ile  
 65 70 75 80  
 Gly Leu Gly Ile Leu Val Thr Arg Leu Ile Leu Ser Thr Ile Arg Lys  
 85 90 95  
 Val Asp Ala Met Gly Tyr Asp Ala Ala Val Lys Glu Glu Gln Tyr Leu  
 100 105 110  
 Ser Arg Ile Arg Glu Leu Glu Ser Glu Asn Arg Glu Ile Arg Asp Arg  
 115 120 125  
 Asn Arg Ala Val Glu Asp Gln Cys Ala His Leu Ser Glu Glu Asn Lys  
 130 135 140  
 Asp Leu Arg Asp Pro Glu Tyr Leu His Gly Met Thr Glu Arg Leu Ile  
 145 150 155 160  
 Ala Ser Leu Glu Ile Glu Asn Gln Ala Leu Val Ala Glu Asn Ile Leu  
 165 170 175  
 Leu Lys Asp Trp Asn Ala Ser Leu Ser Arg Asp Phe Arg Ala Tyr Lys  
 180 185 190  
 Gln Lys Phe Pro Leu Gly Ala Leu Glu Pro Trp Lys Glu Asp Ile Ala  
 195 200 205  
 Cys Ile Met Glu Gln Asn Leu Phe Leu Lys Pro Glu Cys Ile Ala Met  
 210 215 220  
 Val Lys Ser Leu Pro Leu Glu Thr Gln Arg Leu Phe Leu Tyr Pro Lys  
 225 230 235 240  
 Gly Phe Gln Ser Leu Val Asn Arg Phe Ala Pro Arg Ser Arg Phe Phe  
 245 250 255  
 Gln Thr Pro Lys Tyr Glu Tyr Asn Ser Arg Asn Glu Asn Glu Asp Gly  
 260 265 270  
 Lys Val Ala Ala Val Cys Ala Arg Leu Lys Lys Glu Phe Phe Ser Ala  
 275 280 285  
 Val Leu Gly Ala Cys Ser Tyr Glu Glu Leu Gly Gly Ile Cys Glu Arg  
 290 295 300  
 Ala Val Ala Leu Lys Glu Thr Leu Pro Leu Pro Glu Ala Val Tyr Asp  
 305 310 315 320  
 Thr Leu Val Gln Glu Phe Pro Asn Leu Leu Thr Ala Glu Ser Leu Trp  
 325 330 335  
 Lys Glu Trp Cys Phe Tyr Ser Tyr Pro Tyr Leu Arg Pro Tyr Leu Ser  
 340 345 350  
 Val Asp Tyr Cys Lys Arg Leu Phe Val Gln Leu Phe Glu Glu Leu Cys  
 355 360 365  
 Leu Lys Leu Phe Thr Thr Gly Ser Pro Glu Asp Gln Ala Leu Val Arg  
 370 375 380  
 Leu Phe Ser Tyr Tyr Arg Asn His Ile Pro Ala Val Leu Ala Ser Phe  
 385 390 395 400

Gly Leu Pro Pro Pro Glu Thr Gly Gly Ser Val Phe Val Leu Leu Pro  
 405 410 415  
 Lys Gln Glu Asn Leu Leu Trp Ser Gln Ile Glu Val Leu Ala Thr Arg  
 420 425 430  
 Tyr Leu Lys Asp Thr Phe Val Arg Asn Ser Glu Trp Thr Gly Ser Phe  
 435 440 445  
 Glu Met Met Phe Ser Tyr Asn Glu Met Cys Lys Glu Ile Ser Glu Gly  
 450 455 460  
 Arg Ile Arg Phe Ala Glu Asp Tyr Glu Thr Arg His Ser Glu Glu Phe  
 465 470 475 480  
 Pro Pro Ser Pro Leu Ser Glu Glu Gly Glu Glu Phe Leu Pro  
 485 490 495  
 Pro Cys Ser Glu Glu Val Ser Val Leu Glu Arg Pro Asp Leu Asp  
 500 505 510  
 Val Asp Ser Met Trp Val Trp His Pro Pro Val Pro Lys Gly Pro Leu  
 515 520 525

<210> 1029

<211> 335

<212> PRT

<213> Chlamydia pneumoniae

<400> 1029

Phe Phe Leu Lys Gly Val Arg Met Ala Phe Lys Glu Val Val Arg Val  
 1 5 10 15  
 Ala Val Thr Gly Gly Lys Gly Gln Ile Ala Tyr Asn Phe Leu Phe Ala  
 20 25 30  
 Leu Ala His Gly Asp Val Phe Gly Val Asp Arg Gly Val Asp Leu Arg  
 35 40 45  
 Ile Tyr Asp Val Pro Gly Thr Glu Arg Ala Leu Ser Gly Val Arg Met  
 50 55 60  
 Glu Leu Asp Asp Gly Ala Tyr Pro Leu Leu His Arg Leu Arg Val Thr  
 65 70 75 80  
 Thr Ser Leu Asn Asp Ala Phe Asp Gly Ile Asp Ala Ala Phe Leu Ile  
 85 90 95  
 Gly Ala Val Pro Arg Gly Pro Gly Met Glu Arg Gly Asp Leu Leu Lys  
 100 105 110  
 Gln Asn Gly Gln Ile Phe Ser Leu Gln Gly Ala Ala Leu Asn Thr Ala  
 115 120 125  
 Ala Lys Arg Asp Ala Lys Ile Phe Val Val Gly Asn Pro Val Asn Thr  
 130 135 140  
 Asn Cys Trp Ile Ala Met Lys His Ala Pro Arg Leu His Arg Lys Asn  
 145 150 155 160  
 Phe His Ala Met Leu Arg Leu Asp Gln Asn Arg Met His Ser Met Leu  
 165 170 175  
 Ala His Arg Ala Glu Val Pro Leu Glu Glu Val Ser Arg Val Val Ile  
 180 185 190  
 Trp Gly Asn His Ser Ala Lys Gln Val Pro Asp Phe Thr Gln Ala Arg  
 195 200 205  
 Ile Ser Gly Lys Pro Ala Ala Glu Val Ile Gly Asp Arg Asp Trp Leu  
 210 215 220  
 Glu Asn Ile Leu Val His Ser Val Gln Asn Arg Gly Ser Ala Val Ile  
 225 230 235 240  
 Glu Ala Arg Gly Lys Ser Ser Ala Ala Ser Ala Ser Arg Ala Leu Ala  
 245 250 255  
 Glu Ala Ala Arg Ser Ile Phe Cys Pro Lys Ser Asp Glu Trp Phe Ser  
 260 265 270  
 Ser Gly Val Cys Ser Asp His Asn Pro Tyr Gly Ile Pro Glu Asp Leu  
 275 280 285  
 Ile Phe Gly Phe Pro Cys Arg Met Leu Pro Ser Gly Asp Tyr Glu Ile  
 290 295 300

Ile Pro Gly Leu Pro Trp Glu Pro Phe Ile Arg Asn Lys Ile Gln Ile  
 305 310 315 320  
 Ser Leu Asp Glu Ile Ala Gln Glu Lys Ala Ser Val Ser Ser Leu  
 325 330 335

<210> 1030  
 <211> 286  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1030  
 Arg Val Phe Val Ile Ser Thr Met Leu Trp Gly Val Ser Met Arg Gln  
 1 5 10 15  
 Ser Phe Asp Glu Leu Ser Gln Asn Ala Phe Lys Asn Ile Phe Asn Lys  
 20 25 30  
 Gln Arg Phe Cys Phe Ile Phe Cys Ser Leu Cys Cys Phe Gly Phe Val  
 35 40 45  
 Phe Ala Leu Phe Leu Lys Leu Cys Ser Arg Leu Ala Pro Glu Ile Ser  
 50 55 60  
 Leu Ser Thr Leu Gly Leu Gly Ala Phe Phe Cys Ala Phe Ser Val Ile  
 65 70 75 80  
 Cys Ala Ser Ala Ile Ile Val Gln Phe Leu Leu His Lys Glu Ser Gln  
 85 90 95  
 Gly Glu Thr Ser Lys Leu Cys Cys Ala Ile Lys Asn Thr Trp Ser Ser  
 100 105 110  
 Leu Trp Leu Ser Leu Leu Val Ser Met Pro Phe Phe Ile Ala Met Val  
 115 120 125  
 Ala Val Val Thr Val Ala Met Leu Ser Ser Phe Leu Gly Ser Leu Pro  
 130 135 140  
 Trp Val Gly Lys Leu Phe His Thr Val Leu Ile Phe Ile Pro Tyr Leu  
 145 150 155 160  
 Ser Ala Thr Ala Leu Ile Leu Leu Phe Leu Gly Ser Phe Ser Cys Leu  
 165 170 175  
 Phe Phe Cys Ile Pro Val Leu His Asn Gln Glu Ser Ile Asp Tyr Arg  
 180 185 190  
 Lys Leu Leu Glu Cys Phe Arg Gly Asn Ile Leu Arg Gln Phe Ile Gly  
 195 200 205  
 Val Val Ile Ala Leu Val Pro Leu Ala Leu Cys Ser Trp Leu Ala Leu  
 210 215 220  
 Asp Ser Phe Tyr Leu Met Thr His Leu Val Glu Ile Ala Asp Ile His  
 225 230 235 240  
 Thr Trp Ser Phe Leu Ala Gln Met Phe Val Leu Ile Val Pro Ile Ala  
 245 250 255  
 Leu Ile Leu Thr Pro Ala Val Ser Phe Phe Phe Asn Phe Ser Phe Ser  
 260 265 270  
 Phe Tyr Leu Ala Lys Gln Glu Glu Lys Ala Leu Val Lys  
 275 280 285

<210> 1031  
 <211> 353  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1031  
 Phe Lys Val His Phe Met Arg Ile Ala Val Leu Gly Ala Gly Tyr Ala  
 1 5 10 15  
 Gly Leu Ser Val Thr Trp His Leu Leu His Ser Gln Gly Thr Ala  
 20 25 30  
 Thr Ile Asp Leu Phe Asp Pro Ile Pro Leu Gly Glu Gly Ala Ser Gly  
 35 40 45

Met Ser Ser Gly Leu Leu His Ala Phe Thr Gly Lys Lys Ala Leu Lys  
 50 55 60  
 Pro Pro Leu Ala Asp Gln Gly Ile Asn Ala Thr His Ala Leu Ile Thr  
 65 70 75 80  
 Glu Ala Ser Lys Ala Leu Asn Val Pro Ile Val Ile Ser Gln Gly Ile  
 85 90 95  
 Leu Arg Pro Ala Ile Asp Glu Asp Gln Ala Gln Leu Phe Thr Glu Arg  
 100 105 110  
 Val Glu Glu Phe Pro Lys Glu Val Glu Trp Trp Glu Lys Ala Arg Cys  
 115 120 125  
 Glu Ile Ser Ile Pro Ser Met Val Ile Pro Pro Asn Leu Gly Ala Leu  
 130 135 140  
 Phe Ile Lys Ser Gly Val Thr Leu Asn Asn Asp Leu Tyr Ile Gln Gly  
 145 150 155 160  
 Leu Ala Asp Ala Cys Met Lys Leu Gly Thr Gln Phe Tyr Asp Glu Leu  
 165 170 175  
 Ile Glu Asp Leu Ala Asp Ile Glu Glu Phe Tyr Asp His Ile Ile Val  
 180 185 190  
 Thr Pro Gly Ala Asn Ala Ser Ile Leu Pro Glu Leu Lys Asp Met Pro  
 195 200 205  
 Val Asn Lys Val Lys Gly Gln Leu Leu Glu Ile Ser Trp Pro Lys Asp  
 210 215 220  
 Leu Ala Met Leu Ser Phe Ser Ile Asn Ala His Lys Tyr Met Val Ala  
 225 230 235 240  
 Asn Thr Gln Lys Asn Thr Cys Ile Leu Gly Ala Thr Phe Glu His Asn  
 245 250 255  
 Gln Pro Glu Glu Thr Pro Asp Pro Ala Ile Ala Tyr Gln Glu Ile Met  
 260 265 270  
 Pro Pro Val Leu Ser Leu Phe Pro Gly Leu Lys Asp Ala Gln Val Leu  
 275 280 285  
 His Cys Tyr Ala Gly Met Arg Ser Ser Ser Lys Ser Arg Leu Pro Val  
 290 295 300  
 Ile Ser Arg Ile Arg Glu Lys Leu Trp Phe Leu Gly Gly Leu Gly Ser  
 305 310 315 320  
 Lys Gly Leu Leu Tyr His Gly Ile Thr Gly Asp Met Leu Ala Gln Ala  
 325 330 335  
 Val Leu Arg Lys Ser Thr Ala Tyr Ile Ala Lys Glu Phe Leu Phe Thr  
 340 345 350  
 Ile

<210> 1032  
 <211> 490  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1032  
 Ile Lys Glu Thr Phe Met Thr Ser Arg Thr Lys Ser Ser Lys Asn Leu  
 1 5 10 15  
 Gly Thr Ile Ala Leu Ala Gly Met Val Val Ser Ser Ile Ile Gly Gly  
 20 25 30  
 Gly Ile Phe Ser Leu Pro Gln Asn Met Ala Ala Thr Ala Gly Ala Gly  
 35 40 45  
 Ala Val Ile Leu Ser Trp Ile Leu Thr Gly Phe Gly Met Phe Phe Ile  
 50 55 60  
 Ala Asn Thr Phe Arg Ile Leu Ser Thr Ile Arg Pro Asp Leu Lys Glu  
 65 70 75 80  
 Gly Ile Tyr Met Tyr Ser Arg Glu Gly Phe Gly Pro Tyr Ile Gly Phe  
 85 90 95  
 Thr Ile Gly Trp Gly Tyr Trp Leu Cys Gln Ile Phe Gly Asn Val Gly  
 100 105 110

Tyr Ala Val Ile Thr Met Asp Ala Leu Asn Tyr Phe Phe Pro Pro Tyr  
 115 120 125  
 Phe Gln Gly Gly Asn Thr Leu Pro Ala Ile Leu Gly Gly Ser Ile Leu  
 130 135 140  
 Ile Trp Val Phe Asn Phe Ile Val Leu Lys Gly Ile Arg Gln Ala Ser  
 145 150 155 160  
 Ile Ile Asn Val Ile Gly Thr Ile Phe Lys Ile Ile Pro Leu Ile Ile  
 165 170 175  
 Phe Ile Ile Leu Thr Ala Phe Phe Phe Lys Leu Ala Val Phe Lys Thr  
 180 185 190  
 Asp Phe Trp Gly His Ala Val Thr Lys Ala Gln Pro Ser Leu Gly Ser  
 195 200 205  
 Val Ser Ser Gln Leu Lys Gly Thr Met Leu Val Thr Leu Trp Ala Phe  
 210 215 220  
 Ile Gly Ile Glu Gly Ala Val Val Met Ser Gly Arg Ala Lys Asn Pro  
 225 230 235 240  
 Leu Ser Val Gly Gln Ala Thr Val Leu Gly Phe Leu Gly Cys Leu Thr  
 245 250 255  
 Ile Tyr Ile Leu Phe Ser Leu Leu Pro Phe Gly Ser Leu Phe Gln His  
 260 265 270  
 Gln Leu Ala Asn Ile Pro Asn Pro Ser Thr Ala Gly Val Leu Asp Ile  
 275 280 285  
 Leu Val Gly Lys Trp Gly Glu Val Leu Met Asn Val Gly Leu Ile Ile  
 290 295 300  
 Ala Val Leu Ser Ser Trp Leu Ser Trp Thr Ile Ile Val Ala Glu Ile  
 305 310 315 320  
 Pro Phe Ser Ala Ala Lys Asn Gly Thr Phe Pro Glu Ile Phe Thr Ile  
 325 330 335  
 Glu Asn Lys Glu Lys Ser Pro Ser Val Ser Leu Tyr Ile Thr Ser Ser  
 340 345 350  
 Val Met Gln Leu Ala Met Leu Leu Val Tyr Phe Ser Ser Asn Ala Trp  
 355 360 365  
 Asn Thr Met Leu Ser Ile Thr Gly Val Met Val Leu Pro Ala Tyr Leu  
 370 375 380  
 Ala Ser Ala Ala Phe Leu Phe Lys Leu Ser Lys Ser Lys Thr Tyr Pro  
 385 390 395 400  
 Lys Lys Gly Ser Ile Lys Ala Pro Leu Ala Met Ile Thr Gly Ile Leu  
 405 410 415  
 Gly Val Val Tyr Ser Leu Trp Leu Ile Tyr Ala Gly Gly Leu Lys Tyr  
 420 425 430  
 Leu Phe Met Ala Leu Val Leu Leu Ala Leu Gly Ile Pro Phe Tyr Ile  
 435 440 445  
 Asp Ala Gly Lys Lys Lys Lys Asn Ala Lys Thr Phe Phe Ala Lys Lys  
 450 455 460  
 Glu Ile Val Gly Met Thr Phe Ile Gly Leu Leu Ala Leu Thr Ala Ile  
 465 470 475 480  
 Phe Leu Phe Leu Thr Gly Arg Ile Lys Ile  
 485 490

<210> 1033  
 <211> 196  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1033  
 Leu Met Ala Tyr Gly Thr Arg Tyr Pro Thr Leu Ala Phe His Thr Gly  
 1 5 10 15  
 Gly Ile Gly Glu Ser Asp Asp Gly Met Pro Pro Gln Pro Phe Glu Thr  
 20 25 30  
 Phe Cys Tyr Asp Ser Ala Leu Leu Gln Ala Lys Ile Glu Asn Phe Asn  
 35 40 45

Ile	Val	Pro	Tyr	Thr	Ser	Val	Leu	Pro	Lys	Glu	Leu	Phe	Gly	Asn	Ile
50					55					60					
Val	Pro	Val	Asp	Thr	Cys	Val	Lys	Ser	Phe	Lys	His	Gly	Ala	Val	Leu
65			70						75					80	
Glu	Val	Ile	Met	Ala	Gly	Arg	Gly	Ala	Ala	Leu	Ser	Asp	Gly	Thr	His
			85					90					95		
Ala	Ile	Ala	Thr	Gly	Ile	Gly	Ile	Cys	Trp	Gly	Lys	Asp	Lys	Asn	Gly
			100					105					110		
Glu	Leu	Ile	Gly	Gly	Trp	Ala	Ala	Glu	Tyr	Val	Glu	Phe	Phe	Pro	Thr
		115					120					125			
Trp	Ile	Asn	Asp	Glu	Ile	Ala	Glu	Thr	His	Ala	Lys	Met	Trp	Leu	Lys
	130					135					140				
Lys	Ser	Leu	Gln	His	Glu	Leu	Asp	Leu	Arg	Ser	Ile	Ala	Lys	His	Ser
145					150					155				160	
Glu	Phe	Gln	Phe	Phe	His	Asn	Tyr	Ile	Asn	Ile	Lys	Gln	Lys	Phe	Gly
			165						170					175	
Phe	Cys	Leu	Thr	Ala	Leu	Gly	Phe	Leu	Asn	Phe	Glu	Asn	Ala	Glu	Pro
			180					185					190		
Ala	Lys	Val	Asn												
			195												

<210> 1034

<211> 490

<212> PRT

<213> Chlamydia pneumoniae

<400> 1034

Asn	Asn	Lys	Lys	Lys	Asp	Tyr	Ser	Gly	Glu	Phe	Leu	Thr	Thr	Asp	Thr
1			5						10					15	
Val	Asp	Ser	Ile	Ala	Phe	Leu	Pro	Ser	Glu	Glu	Asn	Phe	Cys	Tyr	Ile
			20					25					30		
Lys	Thr	Ile	Leu	Phe	Phe	Arg	Val	Lys	Lys	Lys	His	Tyr	Ala	Phe	Phe
		35				40						45			
Tyr	Gly	Glu	Phe	Met	Ile	Ser	Phe	Arg	Phe	Leu	Leu	Leu	Ser	Gly	Leu
	50					55					60				
Cys	Ala	Leu	Gly	Ile	Ser	Tyr	Ala	Glu	Thr	Pro	Lys	Glu	Thr	Thr	
65					70				75					80	
Gly	His	Tyr	His	Arg	Tyr	Lys	Ala	Arg	Ile	Gln	Lys	Lys	His	Pro	Glu
			85					90						95	
Ser	Ile	Lys	Glu	Ser	Ala	Pro	Ser	Glu	Thr	Pro	His	His	Asn	Ser	Leu
			100					105					110		
Leu	Ser	Pro	Val	Thr	Asn	Ile	Phe	Cys	Ser	His	Pro	Trp	Lys	Asp	Gly
		115					120					125			
Ile	Ser	Val	Ser	Asn	Leu	Leu	Thr	Ser	Val	Glu	Lys	Ala	Thr	Asn	Thr
	130					135						140			
Gln	Ile	Ser	Leu	Asp	Phe	Ser	Ile	Leu	Pro	Gln	Trp	Phe	Tyr	Pro	His
145					150					155				160	
Lys	Ala	Leu	Gly	Gln	Thr	Gln	Ala	Leu	Glu	Ile	Pro	Ser	Trp	Gln	Phe
			165						170					175	
Tyr	Phe	Ser	Pro	Ser	Thr	Thr	Trp	Thr	Leu	Tyr	Asp	Ser	Pro	Thr	Ala
			180					185					190		
Gly	Gln	Gly	Ile	Val	Asp	Phe	Ser	Tyr	Thr	Leu	Ile	His	Tyr	Trp	Gln
		195					200					205			
Thr	Asn	Gly	Val	Asp	Ala	Asn	Gln	Ala	Ala	Gly	Thr	Ala	Ser	Ser	Met
	210					215					220				
Asn	Asp	Tyr	Ser	Asn	Arg	Glu	Asn	Asn	Leu	Ala	Gln	Leu	Thr	Phe	Ser
225					230					235				240	
Gln	Thr	Phe	Pro	Gly	Asp	Phe	Leu	Thr	Leu	Ala	Ile	Gly	Gln	Tyr	Ser
			245						250				255		
Leu	Tyr	Ala	Ile	Asp	Gly	Thr	Leu	Tyr	Asp	Asn	Asp	Gln	Tyr	Ser	Gly
			260					265					270		

Phe Ile Ser Tyr Ala Leu Ser Gln Asn Ala Ser Ala Thr Tyr Ser Leu  
 275 280 285  
 Gly Ser Thr Gly Ala Tyr Leu Gln Phe Thr Pro Asn Ser Glu Ile Lys  
 290 295 300  
 Val Gln Leu Gly Phe Gln Asp Ser Tyr Asn Ile Asp Gly Thr Asn Phe  
 305 310 315 320  
 Ser Ile Tyr Asn Leu Thr Lys Ser Lys Tyr Asn Phe Tyr Gly Tyr Ala  
 325 330 335  
 Ser Trp Thr Pro Lys Pro Ser Cys Gly Asp Gly Gln Tyr Ser Val Leu  
 340 345 350  
 Leu Tyr Ser Thr Arg Lys Val Pro Glu Gln Asn Ser Gln Val Thr Gly  
 355 360 365  
 Trp Ser Leu Asn Ala Ala Gln His Ile His Glu Lys Leu Tyr Leu Phe  
 370 375 380  
 Gly Arg Ile Asn Gly Ala Thr Gly Thr Ala Leu Pro Ile Asn Arg Ser  
 385 390 395 400  
 Tyr Val Leu Gly Leu Val Ser Glu Asn Pro Leu Asn Arg His Ser Gln  
 405 410 415  
 Asp Leu Leu Gly Ile Gly Phe Ala Thr Asn Lys Val Asn Ala Lys Ala  
 420 425 430  
 Ile Ser Asn Val Asn Lys Leu Arg Tyr Glu Ser Val Met Glu Ala  
 435 440 445  
 Phe Ala Thr Ile Gly Phe Gly Pro Tyr Ile Ser Leu Thr Pro Asp Phe  
 450 455 460  
 Gln Leu Tyr Ile His Pro Ala Leu Arg Pro Glu Arg Arg Thr Ser Gln  
 465 470 475 480  
 Val Tyr Gly Leu Arg Ala Asn Leu Ser Leu  
 485 490

<210> 1035

<211> 286

<212> PRT

<213> Chlamydia pneumoniae

<400> 1035

Lys Thr Ser Trp Gln Lys Tyr Lys Lys Tyr Leu Ser Tyr Ser Ile Leu  
 1 5 10 15  
 Val Gln Lys Ile Ala Arg Tyr Val Met Lys Thr Trp Leu Phe Phe Thr  
 20 25 30  
 Phe Leu Phe Ser Cys Ser Ser Phe Tyr Ala Ser Cys Arg Tyr Ala Glu  
 35 40 45  
 Val Arg Ser Ile His Glu Val Ala Gly Asp Ile Leu Tyr Asp Glu Glu  
 50 55 60  
 Asn Phe Trp Leu Ile Leu Asp Leu Asp Asp Thr Leu Leu Gln Gly Gly  
 65 70 75 80  
 Glu Ala Leu Ser His Ser Ile Trp Lys Ser Lys Ala Ile Gln Gly Leu  
 85 90 95  
 Gln Lys Gln Gly Thr Pro Glu Gln Glu Ala Trp Glu Ala Val Val Pro  
 100 105 110  
 Phe Trp Ile Glu Ile Gln Glu Met Gly Thr Val Gln Pro Ile Glu Ser  
 115 120 125  
 Ala Ile Phe Leu Leu Ile Glu Lys Ile Gln Lys Gln Gly Lys Thr Thr  
 130 135 140  
 Phe Val Tyr Thr Glu Arg Pro Lys Thr Ala Lys Asp Leu Thr Leu Lys  
 145 150 155 160  
 Gln Leu His Met Leu Asn Val Ser Leu Glu Asp Thr Ala Pro Gln Pro  
 165 170 175  
 Gln Ala Pro Leu Pro Lys Asn Leu Leu Tyr Thr Ser Gly Ile Leu Phe  
 180 185 190  
 Ser Gly Asp Tyr His Lys Gly Pro Gly Leu Asp Leu Phe Leu Glu Ile  
 195 200 205



Cys	Thr	Pro	Leu	Pro	Ala	Lys	Ile	Ile	Tyr	Ile	Asp	Asn	Gln	Lys	Glu
	210					215					220				
Asn	Val	Leu	Arg	Ile	Gly	Asp	Leu	Cys	Gln	Lys	Tyr	Gly	Ile	Ala	Tyr
225					230					235					240
Phe	Gly	Ile	Thr	Tyr	Lys	Ala	Gln	Glu	Leu	His	Pro	Pro	Ile	Tyr	Phe
				245					250					255	
Asp	Asn	Ile	Ala	Gln	Val	Gln	Tyr	Asn	Tyr	Ser	Lys	Lys	Leu	Leu	Ser
			260					265					270		
Asn	Glu	Ala	Ala	Ala	Leu	Leu	Leu	Arg	His	Gln	Met	His	Glu		
	275						280					285			

<210> 1036  
 <211> 504  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1036															
Val	Val	Gln	Leu	Pro	Leu	Met	Val	Pro	Ile	Val	His	Leu	Gln	Ile	Trp
1				5					10					15	
Arg	Phe	Ser	Met	Ile	Tyr	Tyr	Gly	Val	Ser	Val	Met	Leu	Cys	Ala	Thr
		20						25					30		
Val	Ser	Gly	Pro	Ser	Phe	Cys	Glu	Ala	Lys	Gln	Gln	Ile	Leu	Lys	Ser
	35						40					45			
Leu	His	Leu	Val	Asp	Ile	Ile	Glu	Leu	Arg	Leu	Asp	Leu	Ile	Asn	Glu
50					55						60				
Leu	Asp	Asp	Gln	Glu	Leu	His	Thr	Leu	Ile	Thr	Thr	Ala	Gln	Asn	Pro
65					70					75				80	
Ile	Leu	Thr	Phe	Arg	Gln	His	Lys	Glu	Met	Ser	Thr	Ala	Leu	Trp	Ile
			85					90						95	
Gln	Lys	Leu	Tyr	Ser	Leu	Ala	Lys	Leu	Glu	Pro	Lys	Trp	Met	Asp	Ile
		100						105					110		
Asp	Val	Ser	Leu	Pro	Lys	Thr	Ala	Leu	Gln	Thr	Ile	Arg	Lys	Ser	His
	115						120					125			
Pro	Lys	Ile	Lys	Leu	Ile	Leu	Ser	Tyr	His	Thr	Asp	Lys	Asn	Glu	Asp
	130					135					140				
Leu	Asp	Ala	Ile	Tyr	Asn	Glu	Met	Leu	Ala	Thr	Pro	Ala	Glu	Ile	Tyr
145					150					155				160	
Lys	Ile	Val	Leu	Ser	Pro	Glu	Asn	Ser	Ser	Glu	Ala	Leu	Asn	Tyr	Ile
			165					170						175	
Lys	Lys	Ala	Arg	Leu	Leu	Pro	Lys	Pro	Ser	Thr	Val	Leu	Cys	Met	Gly
		180						185					190		
Thr	His	Gly	Leu	Pro	Ser	Arg	Val	Leu	Ser	Pro	Leu	Ile	Ser	Asn	Ala
	195						200					205			
Met	Asn	Tyr	Ala	Ala	Gly	Ile	Ser	Ala	Pro	Gln	Val	Ala	Pro	Gly	Gln
	210					215					220				
Pro	Lys	Leu	Glu	Glu	Leu	Leu	Ser	Tyr	Asn	Tyr	Ser	Lys	Leu	Ser	Glu
225					230					235					240
Lys	Ser	His	Ile	Tyr	Gly	Leu	Ile	Gly	Asp	Pro	Val	Asp	Arg	Ser	Ile
			245					250						255	
Ser	His	Leu	Ser	His	Asn	Phe	Leu	Leu	Ser	Lys	Leu	Ser	Leu	Asn	Ala
		260					265						270		
Thr	Tyr	Ile	Lys	Phe	Pro	Val	Thr	Ile	Gly	Glu	Val	Val	Thr	Phe	Phe
	275						280					285			
Ser	Ala	Ile	Arg	Asp	Leu	Pro	Phe	Ser	Gly	Leu	Ser	Val	Thr	Met	Pro
	290					295					300				
Leu	Lys	Thr	Ala	Ile	Phe	Asp	His	Val	Asp	Ala	Leu	Asp	Ala	Ser	Ala
305					310					315					320
Gln	Leu	Cys	Glu	Ser	Ile	Asn	Thr	Leu	Val	Phe	Arg	Asn	Gln	Lys	Ile
			325					330						335	
Leu	Gly	Tyr	Asn	Thr	Asp	Gly	Glu	Gly	Val	Ala	Lys	Leu	Leu	Lys	Gln
		340						345					350		

Lys Asn Ile Ser Val Asn Asn Lys His Ile Ala Ile Val Gly Ala Gly  
 355 360 365  
 Gly Ala Ala Lys Ala Ile Ala Ala Thr Leu Ala Met Gln Gly Ala Asn  
 370 375 380  
 Leu His Ile Phe Asn Arg Thr Leu Ser Ser Ala Ala Ala Leu Ala Thr  
 385 390 395 400  
 Cys Cys Lys Gly Lys Ala Tyr Pro Leu Gly Ser Leu Glu Asn Phe Lys  
 405 410 415  
 Thr Ile Asp Ile Ile Ile Asn Cys Leu Pro Pro Glu Val Thr Phe Pro  
 420 425 430  
 Trp Arg Phe Pro Pro Ile Val Met Asp Ile Asn Thr Lys Pro His Pro  
 435 440 445  
 Ser Pro Tyr Leu Glu Arg Ala Gln Lys His Gly Ser Leu Ile Ile His  
 450 455 460  
 Gly Tyr Glu Met Phe Ile Glu Gln Ala Leu Leu Gln Phe Ala Leu Trp  
 465 470 475 480  
 Phe Pro Asp Phe Leu Thr Pro Glu Ser Cys Asp Ser Phe Arg Asn Tyr  
 485 490 495  
 Val Lys Asn Phe Met Ala Lys Val  
 500

<210> 1037  
 <211> 399  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1037  
 Gly Tyr Asp Lys Pro Cys Ser Cys Arg Ser Cys Ile Ile Pro Thr Met  
 1 5 10 15  
 Leu Gln Thr Met Met Ser Glu Thr Ile Ile Thr Thr Pro His Val Val  
 20 25 30  
 Lys Leu Ile Ser Asn Phe Phe Gln Lys Lys Leu Phe Ser Ser Ile Ser  
 35 40 45  
 Thr Ala Tyr Pro Leu Val Ile Ile Thr Asp Val Ser Val Gln Gln His  
 50 55 60  
 Leu Leu Gly Pro Ile Leu Asp His Ile Lys Met Leu Gly Tyr Gln Val  
 65 70 75 80  
 Ile Val Leu Thr Phe Pro Pro Gly Glu Pro Asn Lys Thr Trp Glu Thr  
 85 90 95  
 Phe Ile Ser Leu Gln Tyr Gln Leu Val Asp Gln Asn Ile Ser Pro Lys  
 100 105 110  
 Ser Ser Ile Ile Gly Ile Gly Gly Thr Val Leu Asp Met Thr Gly  
 115 120 125  
 Phe Leu Ala Ala Thr Tyr Cys Arg Gly Leu Pro Leu Tyr Leu Ile Pro  
 130 135 140  
 Thr Thr Ile Thr Ala Met Val Asp Thr Ser Ile Gly Gly Lys Asn Gly  
 145 150 155 160  
 Ile Asn Leu Arg Gly Ile Lys Asn Arg Leu Gly Thr Phe Tyr Leu Pro  
 165 170 175  
 Lys Glu Val Trp Met Cys Pro Gln Phe Leu Ser Thr Leu Pro Arg Glu  
 180 185 190  
 Glu Trp Tyr His Gly Ile Ala Glu Ala Ile Lys His Gly Phe Ile Ala  
 195 200 205  
 Asp Ala Tyr Leu Trp Glu Phe Leu Asn Ser His Ser Lys Met Leu Phe  
 210 215 220  
 Ser Ser Ser Gln Ile Leu His Glu Phe Ile Lys Arg Asn Cys Gln Ile  
 225 230 235 240  
 Lys Ala Ala Ile Val Ala Glu Asp Pro Tyr Asp Arg Ser Leu Arg Lys  
 245 250 255  
 Ile Leu Asn Phe Gly His Ser Ile Ala His Ala Ile Glu Thr Leu Ala  
 260 265 270

Lys Gly Thr Val Asn His Gly Gln Ala Val Ser Val Gly Met Met Ile  
           275                          280                          285  
 Glu Thr Arg Ile Ser Leu Ala Glu Gly Val Met Lys Thr Pro Gln Leu  
           290                          295                          300  
 Ile Asp Gln Leu Glu Arg Leu Leu Lys Arg Phe Asn Leu Pro Ser Thr  
 305                          310                          315                          320  
 Leu Lys Asp Leu Gln Ser Ile Val Pro Glu His Leu His Asn Ser Leu  
                           325                          330                          335  
 Tyr Ser Pro Glu Asn Ile Ile Tyr Thr Leu Gly Tyr Asp Lys Lys Asn  
                           340                          345                          350  
 Leu Ser Gln His Glu Leu Lys Met Ile Met Ile Glu His Leu Gly Arg  
                           355                          360                          365  
 Ala Ala Pro Phe Asn Gly Thr Tyr Cys Ala Ser Pro Asn Met Glu Ile  
           370                          375                          380  
 Leu Tyr Asp Ile Leu Trp Ser Glu Cys His Val Met Arg His Cys  
 385                          390                          395

<210> 1038  
 <211> 388  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1038  
 Leu His Phe Ser Arg Gly Ser Arg Arg Ser Phe Leu Glu Glu Leu Leu  
 1                          5                          10                          15  
 Arg Thr Ser Val Ser Arg Ser His Tyr Leu Val Lys Val Met Lys Asn  
           20                          25                          30  
 Ser Phe Gly Ser Leu Phe Ser Phe Thr Thr Trp Gly Glu Ser His Gly  
           35                          40                          45  
 Pro Ser Ile Gly Val Val Ile Asp Gly Cys Pro Ala Gly Leu Glu Leu  
           50                          55                          60  
 His Glu Ser Asp Phe Val Pro Ala Met Lys Arg Arg Arg Pro Gly Asn  
 65                          70                          75                          80  
 Pro Gly Thr Ser Ser Arg Lys Glu Asn Asp Ile Val Gln Ile Leu Ser  
                           85                          90                          95  
 Gly Val Tyr Lys Gly Lys Thr Thr Gly Thr Pro Leu Ser Leu Gln Ile  
           100                          105                          110  
 Leu Asn Thr Asp Val Asp Ser Ser Pro Tyr Glu Asn Ser Glu Arg Leu  
           115                          120                          125  
 Tyr Arg Pro Gly His Ser Gln Tyr Thr Tyr Glu Lys Lys Phe Gly Ile  
           130                          135                          140  
 Val Asp Pro Asn Gly Gly Gly Arg Ser Ser Ala Arg Glu Thr Ala Cys  
 145                          150                          155                          160  
 Arg Val Ala Ala Gly Val Val Ala Glu Lys Phe Leu Ala Asn Gln Asn  
                           165                          170                          175  
 Ile Phe Thr Leu Ala Tyr Leu Ser Ser Leu Gly Ser Leu Thr Leu Pro  
           180                          185                          190  
 His Tyr Leu Lys Ile Ser Pro Glu Leu Ile His Lys Ile His Thr Ser  
           195                          200                          205  
 Pro Phe Tyr Ser Pro Leu Pro Asn Glu Lys Ile Gln Glu Ile Leu Thr  
           210                          215                          220  
 Ser Leu His Asp Asp Ser Asp Ser Leu Gly Gly Val Ile Ser Phe Ile  
 225                          230                          235                          240  
 Thr Ser Pro Ile His Asp Phe Leu Gly Glu Pro Leu Phe Gly Lys Val  
                           245                          250                          255  
 His Ala Leu Leu Ala Ser Ala Leu Met Ser Ile Pro Ala Ala Lys Gly  
           260                          265                          270  
 Phe Glu Ile Gly Lys Gly Phe Ala Ser Ala Gln Met Arg Gly Ser Gln  
           275                          280                          285  
 Tyr Thr Asp Pro Phe Val Met Glu Gly Glu Asn Ile Thr Leu Lys Ser  
           290                          295                          300

Asn Asn Cys Gly Gly Thr Leu Gly Gly Ile Thr Ile Gly Val Pro Ile  
 305 310 315 320  
 Glu Gly Arg Ile Ala Phe Lys Pro Thr Ser Ser Ile Lys Arg Pro Cys  
 325 330 335  
 Ala Thr Val Thr Lys Thr Lys Lys Glu Thr Thr Tyr Arg Thr Pro Gln  
 340 345 350  
 Thr Gly Arg His Asp Pro Cys Val Ala Ile Arg Ala Val Pro Val Val  
 355 360 365  
 Glu Ala Met Ile Asn Leu Val Leu Ala Asp Leu Val Leu Tyr Gln Arg  
 370 375 380  
 Cys Ser Lys Leu  
 385

<210> 1039  
 <211> 184  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1039  
 Trp Lys Leu Glu Leu Arg Asn Val Met Thr Ile Ile Leu Cys Gly Leu  
 1 5 10 15  
 Pro Thr Ser Gly Lys Ser Ser Leu Gly Lys Ala Leu Ala Lys Phe Leu  
 20 25 30  
 Asn Leu Pro Phe Tyr Asp Leu Asp Asp Leu Ile Val Ser Asn Tyr Ser  
 35 40 45  
 Ser Ala Leu Tyr Ser Ser Ser Ala Glu Ile Tyr Lys Ala Tyr Gly Asp  
 50 55 60  
 Gln Lys Phe Ser Glu Cys Glu Ala Arg Ile Leu Glu Thr Leu Pro Pro  
 65 70 75 80  
 Glu Asp Ala Leu Ile Ser Leu Gly Gly Gly Thr Leu Met Tyr Glu Ala  
 85 90 95  
 Ser Tyr Arg Ala Ile Gln Thr Arg Gly Ala Leu Val Phe Leu Ser Val  
 100 105 110  
 Glu Leu Pro Leu Ile Tyr Glu Arg Leu Glu Lys Arg Gly Leu Pro Glu  
 115 120 125  
 Arg Leu Lys Glu Ala Met Lys Thr Lys Pro Leu Ser Glu Ile Leu Thr  
 130 135 140  
 Glu Arg Ile Asp Arg Met Lys Glu Ile Ala Asp Tyr Ile Phe Pro Val  
 145 150 155 160  
 Asp His Val Asp His Ser Ser Lys Ser Ser Leu Glu Gln Ala Ser Gln  
 165 170 175  
 Asp Leu Ile Thr Leu Leu Lys Ser  
 180

<210> 1040  
 <211> 449  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1040  
 Val Cys Phe Thr Met Leu Thr Tyr Lys Val Ser Pro Ser Ser Val Tyr  
 1 5 10 15  
 Gly Asn Ala Phe Ile Pro Ser Ser Lys Ser His Thr Leu Arg Ala Ile  
 20 25 30  
 Leu Trp Ala Ser Val Ala Glu Gly Lys Ser Ile Ile Tyr Asn Tyr Leu  
 35 40 45  
 Asp Ser Pro Asp Thr Glu Ala Met Ile Cys Ala Cys Lys Gln Met Gly  
 50 55 60  
 Ala Ser Ile Lys Lys Phe Pro Gln Ile Leu Glu Ile Val Gly Asn Pro  
 65 70 75 80

Leu Ala Ile Phe Pro Lys Tyr Thr Leu Ile Asp Ala Gly Asn Ser Gly  
 85 90 95  
 Ile Val Leu Arg Phe Met Thr Ala Leu Ala Cys Val Phe Ser Lys Glu  
 100 105 110  
 Ile Thr Val Thr Gly Ser Ser Gln Leu Gln Arg Arg Pro Met Ala Pro  
 115 120 125  
 Leu Leu Gln Ala Leu Arg Asn Phe Gly Ala Ser Phe His Phe Ser Ser  
 130 135 140  
 Asp Lys Ser Val Leu Pro Phe Thr Met Ser Gly Pro Leu Arg Ser Ala  
 145 150 155 160  
 Tyr Ser Asp Val Glu Gly Ser Asp Ser Gln Phe Ala Ser Ala Leu Ala  
 165 170 175  
 Val Ala Cys Ser Leu Ala Glu Gly Pro Cys Ser Phe Thr Ile Ile Glu  
 180 185 190  
 Pro Lys Glu Arg Pro Trp Phe Asp Leu Ser Leu Trp Trp Leu Glu Lys  
 195 200 205  
 Leu His Leu Pro Tyr Ser Cys Ser Asp Thr Thr Tyr Ser Phe Pro Gly  
 210 215 220  
 Ser Ser His Pro Gln Gly Phe Ser Tyr His Val Thr Gly Asp Phe Ser  
 225 230 235 240  
 Ser Ala Ala Phe Ile Ala Ala Ala Ala Leu Leu Ser Lys Ser Leu Gln  
 245 250 255  
 Pro Ile Arg Leu Arg Asn Leu Asp Ile Leu Asp Ile Gln Gly Asp Lys  
 260 265 270  
 Ile Phe Phe Ser Leu Met Gln Asn Leu Gly Ala Ser Ile Gln Tyr Asp  
 275 280 285  
 Asn Glu Glu Ile Leu Val Phe Pro Ser Ser Phe Ser Gly Gly Ser Ile  
 290 295 300  
 Asp Met Asp Gly Cys Ile Asp Ala Leu Pro Ile Leu Thr Val Leu Cys  
 305 310 315 320  
 Cys Phe Ala Asp Ser Pro Ser His Leu Tyr Asn Ala Arg Ser Ala Lys  
 325 330 335  
 Asp Lys Glu Ser Asp Arg Ile Leu Ala Ile Thr Glu Glu Leu Gln Lys  
 340 345 350  
 Met Gly Ala Cys Ile Gln Pro Thr His Asp Gly Leu Leu Val Asn Pro  
 355 360 365  
 Ser Pro Leu Tyr Gly Ala Val Leu Asp Ser His Asp Asp His Arg Ile  
 370 375 380  
 Ala Met Ala Leu Thr Ile Ala Ala Leu Tyr Ala Ser Gly Asp Ser Arg  
 385 390 395 400  
 Ile His Asn Thr Ala Cys Val Arg Lys Thr Phe Pro Asn Phe Val Gln  
 405 410 415  
 Thr Leu Asn Ile Met Glu Ala Arg Ile Glu Glu Cys His Asp Asn Tyr  
 420 425 430  
 Ser Met Trp Ser Thr His Lys Arg Lys Val Phe Ala Arg Glu Ser Phe  
 435 440 445  
 Gly

<210> 1041  
 <211> 268  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1041  
 Arg Pro Ser Gln Ser Leu Phe Leu Arg Thr Trp Ser Pro Ser Ser Ser  
 1 5 10 15  
 Phe Arg Glu His Thr Val Cys Ala Ala Pro Leu Leu Tyr Pro Arg Arg  
 20 25 30  
 Arg Ser Pro Asp Tyr Leu Phe Ser Pro Thr Gly Cys Pro Met Ser Thr  
 35 40 45

Thr Thr Val Lys His Phe Ile His Thr Ala Ser Arg Trp Glu Pro Val  
 50 55 60  
 Leu Lys Glu Ile Val Ala Ser Asn Tyr Trp His Ala Gln Trp Ile Asn  
 65 70 75 80  
 Thr Leu Ser Phe Leu Glu Asn Ser Gly Ala Lys Lys Ile Ser Ala Ser  
 85 90 95  
 Glu His Pro Thr Glu Val Lys Glu Glu Val Leu Lys His Ala Ala Glu  
 100 105 110  
 Glu Phe Arg His Gly His Tyr Leu Lys Thr Gln Ile Ser Arg Ile Ser  
 115 120 125  
 Glu Thr Ser Leu Pro Asp Tyr Thr Ser Lys Asn Leu Leu Gly Gly Leu  
 130 135 140  
 Leu Thr Lys Tyr Tyr Leu His Leu Leu Asp Leu Arg Thr Cys Arg Val  
 145 150 155 160  
 Leu Glu Asn Glu Tyr Ser Leu Ser Gly Gln Thr Leu Lys Thr Ala Ala  
 165 170 175  
 Tyr Ile Leu Val Thr Tyr Ala Ile Glu Leu Arg Ala Ser Glu Leu Tyr  
 180 185 190  
 Pro Leu Tyr His Asp Ile Leu Lys Glu Ala Gln Ser Lys Ile Thr Val  
 195 200 205  
 Lys Ser Ile Ile Leu Glu Glu Gln Gly His Leu Gln Glu Met Glu Arg  
 210 215 220  
 Glu Leu Lys Asp Leu Pro His Gly Glu Glu Leu Leu Gly Tyr Ala Cys  
 225 230 235 240  
 Gln Phe Glu Gly Glu Leu Cys Leu Gln Phe Val Glu Arg Leu Glu Gln  
 245 250 255  
 Met Ile Phe Asp Pro Ser Ser Thr Phe Thr Lys Phe  
 260 265

<210> 1042

<211> 526

<212> PRT

<213> Chlamydia pneumoniae

<400> 1042

Asp Phe Arg Arg Ile Phe Ile Pro Leu His Ile Lys Lys Thr Ser Gly  
 1 5 10 15  
 Arg Cys Val Phe Phe Leu Val Met Phe Leu Asp Phe Ser Glu Pro Ser  
 20 25 30  
 Ile Ser Arg Lys Tyr Gln Ser His Leu Phe Asn Gly Arg Ser Asn Ala  
 35 40 45  
 Leu Thr Lys Pro Gln Tyr Leu Arg Tyr Gly Gly Lys Trp Val Ser Arg  
 50 55 60  
 Gly Arg Arg Ala Leu Ala Asn Ser Arg Asn Gln Ala Ser Tyr Asn Arg  
 65 70 75 80  
 Asp Ser Cys Gln Gly Lys Arg Asn His Lys Asp Asn His Lys Leu Leu  
 85 90 95  
 Cys Arg Thr Met Glu Gly Ser Met Asp Lys Gln Ser Ser Gly Asn Ser  
 100 105 110  
 Gly Cys Ile Trp His Pro Phe Thr Gln Ser Ala Leu Asp Ser Thr Pro  
 115 120 125  
 Ile Lys Ile Val Arg Gly Glu Gly Ala Tyr Leu Tyr Ala Glu Ser Gly  
 130 135 140  
 Thr Arg Tyr Leu Asp Ala Ile Ser Ser Trp Trp Cys Asn Leu His Gly  
 145 150 155 160  
 His Gly His Pro Tyr Ile Thr Lys Lys Leu Cys Glu Gln Ala Gln Lys  
 165 170 175  
 Leu Glu His Val Ile Phe Ala Asn Phe Thr His Glu Pro Ala Leu Glu  
 180 185 190  
 Leu Val Ser Lys Leu Ala Pro Leu Leu Pro Glu Gly Leu Glu Arg Phe  
 195 200 205

Phe Phe Ser Asp Asn Gly Ser Thr Ser Ile Glu Ile Ala Met Lys Ile  
 210 215 220  
 Ala Val Gln Tyr Tyr Tyr Asn Gln Asn Lys Ala Lys Ser His Phe Val  
 225 230 235 240  
 Gly Leu Ser Asn Ala Tyr His Gly Asp Thr Phe Gly Ala Met Ser Ile  
 245 250 255  
 Ala Gly Thr Ser Pro Thr Thr Val Pro Phe His Asp Leu Phe Leu Pro  
 260 265 270  
 Ser Ser Thr Ile Ala Ala Pro Tyr Tyr Gly Lys Glu Glu Leu Ala Ile  
 275 280 285  
 Ala Gln Ala Lys Thr Val Phe Ser Glu Ser Asn Ile Ala Ala Phe Ile  
 290 295 300  
 Tyr Glu Pro Leu Leu Gln Gly Ala Gly Gly Met Leu Met Tyr Asn Pro  
 305 310 315 320  
 Glu Gly Leu Lys Glu Ile Leu Lys Leu Ala Lys His Tyr Gly Val Leu  
 325 330 335  
 Cys Ile Ala Asp Glu Ile Leu Thr Gly Phe Gly Arg Thr Gly Pro Leu  
 340 345 350  
 Phe Ala Ser Glu Phe Thr Asp Ile Pro Pro Asp Ile Ile Cys Leu Ser  
 355 360 365  
 Lys Gly Leu Thr Gly Gly Tyr Leu Pro Leu Ala Leu Thr Val Thr Thr  
 370 375 380  
 Lys Glu Ile His Asp Ala Phe Val Ser Gln Asp Arg Met Lys Ala Leu  
 385 390 395 400  
 Leu His Gly His Thr Phe Thr Gly Asn Pro Leu Gly Cys Ser Ala Ala  
 405 410 415  
 Leu Ala Ser Leu Asp Leu Thr Leu Ser Pro Glu Cys Leu Gln Gln Arg  
 420 425 430  
 Gln Met Ile Glu Arg Cys His Gln Glu Phe Gln Glu Ala His Gly Ser  
 435 440 445  
 Leu Trp Gln Arg Cys Glu Val Leu Gly Thr Val Leu Ala Leu Asp Tyr  
 450 455 460  
 Pro Ala Glu Ala Thr Gly Tyr Phe Ser Gln Tyr Arg Asp His Leu Asn  
 465 470 475 480  
 Arg Phe Phe Leu Glu Arg Gly Val Leu Leu Arg Pro Leu Gly Asn Thr  
 485 490 495  
 Leu Tyr Val Leu Pro Pro Tyr Cys Ile Gln Glu Glu Asp Leu Arg Ile  
 500 505 510  
 Ile Tyr Ser His Leu Gln Asp Ala Leu Cys Leu Gln Pro Gln  
 515 520 525

<210> 1043

<211> 232

<212> PRT

<213> Chlamydia pneumoniae

<400> 1043

Asn Arg Ser Pro Phe Thr Tyr Phe Arg Ala Asn Phe Phe Met Gln Arg  
 1 5 10 15  
 Ile Ile Ile Val Gly Ile Asp Thr Gly Val Gly Lys Thr Ile Val Ser  
 20 25 30  
 Ala Ile Leu Ala Arg Ala Leu Asn Ala Glu Tyr Trp Lys Pro Ile Gln  
 35 40 45  
 Ala Gly Asn Leu Glu Asn Ser Asp Ser Asn Ile Val His Glu Leu Ser  
 50 55 60  
 Gly Ala Tyr Cys His Pro Glu Ala Tyr Arg Leu His Lys Pro Leu Ser  
 65 70 75 80  
 Pro His Lys Ala Ala Gln Ile Asp Asn Val Ser Ile Glu Glu Ser His  
 85 90 95  
 Ile Cys Ala Pro Lys Thr Thr Ser Asn Leu Ile Ile Glu Thr Ser Gly  
 100 105 110

Gly	Phe	Leu	Ser	Pro	Cys	Thr	Ser	Lys	Arg	Leu	Gln	Gly	Asp	Val	Phe
	115						120					125			
Ser	Ser	Trp	Ser	Cys	Ser	Trp	Ile	Leu	Val	Ser	Gln	Ala	Tyr	Leu	Gly
	130						135				140				
Ser	Ile	Asn	His	Thr	Cys	Leu	Thr	Val	Glu	Ala	Met	Arg	Ser	Arg	Asn
145					150					155					160
Leu	Asn	Ile	Leu	Gly	Met	Val	Val	Asn	Gly	Tyr	Pro	Glu	Asp	Glu	Glu
				165					170					175	
His	Trp	Leu	Thr	Gln	Glu	Ile	Lys	Leu	Pro	Ile	Ile	Gly	Thr	Leu	Ala
		180						185					190		
Lys	Glu	Lys	Glu	Ile	Thr	Lys	Thr	Ile	Ile	Ser	Cys	Tyr	Ala	Glu	Gln
	195						200					205			
Trp	Lys	Glu	Val	Trp	Thr	Ser	Asn	His	Gln	Gly	Ile	Gln	Gly	Val	Ser
	210					215					220				
Gly	Thr	Pro	Ser	Leu	Asn	Leu	His								
225					230										

<210> 1044

<211> 383

<212> PRT

<213> Chlamydia pneumoniae

<400> 1044

Pro	Met	Leu	Cys	Gln	Gln	Phe	Leu	Ile	Glu	Ala	Leu	Ala	Arg	Arg	Lys
1			5						10					15	
Ser	Lys	His	Thr	Tyr	Arg	Ser	Leu	Ser	Leu	Asn	Ser	His	Leu	Ile	Asp
		20						25				30			
Phe	Thr	Ser	Asn	Asp	Tyr	Leu	Gly	Phe	Ala	Ser	Ser	Pro	Glu	Leu	Arg
	35						40					45			
Lys	Glu	Tyr	Ile	Thr	Lys	Leu	His	Ala	Ile	Glu	Ser	Leu	Gly	Ala	Thr
	50					55					60				
Gly	Ser	Arg	Leu	Leu	Thr	Gly	His	Ser	Gln	Leu	Cys	Gln	Arg	Ile	Glu
65					70					75				80	
Glu	Gln	Leu	Ala	Ala	Tyr	His	Asn	Phe	Glu	Ser	Cys	Leu	Ile	Phe	Asn
			85						90					95	
Thr	Gly	Tyr	Thr	Ala	Asn	Leu	Gly	Leu	Leu	Tyr	Ala	Leu	Ala	Thr	Asp
			100					105					110		
Gln	Asp	Arg	Ile	Leu	His	Asp	Leu	Tyr	Ile	His	Ala	Ser	Ile	Tyr	Asp
	115						120					125			
Gly	Ile	Arg	Leu	Ser	Lys	Ala	Gln	Ser	Phe	Pro	Phe	Asn	His	Asn	Asp
	130					135					140				
Leu	Asn	His	Leu	Glu	Lys	Arg	Leu	Ala	Ser	Ser	His	Leu	Gly	Arg	Thr
145					150					155				160	
Phe	Val	Cys	Val	Glu	Ser	Val	Tyr	Ser	Leu	His	Gly	Ser	Val	Ala	Pro
				165					170					175	
Leu	Gln	Ala	Ile	Ser	Glu	Leu	Cys	Glu	Arg	Tyr	Ser	Ala	Tyr	Leu	Ile
			180					185					190		
Val	Asp	Glu	Ala	His	Ala	Val	Gly	Val	Phe	Gly	Asp	Gln	Gly	Glu	Gly
	195						200					205			
Leu	Val	Ser	Ala	Leu	Gly	Leu	Gln	Asp	Lys	Val	Leu	Ala	Thr	Val	Tyr
	210					215					220				
Thr	Phe	Gly	Lys	Ala	Leu	Gly	Thr	His	Gly	Ala	Ala	Ile	Ala	Gly	Ser
225					230					235				240	
Ser	Ile	Leu	Lys	Asp	Tyr	Leu	Ile	Asn	Phe	Cys	Arg	Pro	Phe	Ile	Tyr
			245						250					255	
Thr	Thr	Ala	Gln	Pro	Pro	His	Ala	Leu	Thr	Ala	Ile	Glu	Leu	Ala	Tyr
		260						265					270		
Glu	His	Asn	Gln	Arg	Ala	Phe	Asn	Gln	Arg	Glu	His	Leu	Ser	Ala	Leu
	275						280					285			
Ile	His	His	Phe	Arg	Glu	Lys	Ala	Gln	Asn	Leu	Gly	Leu	Gln	Leu	Met
	290					295					300				



Lys Asp Asn Thr Thr Thr Pro Ile Gln Ser Ile Cys Val Ser Gly Ser  
 305 310 315 320  
 His Arg Ala Arg Gln Ala Ala Leu Gln Ile Gln Asn Ser Gly Tyr Asp  
 325 330 335  
 Val Arg Pro Ile Val Ser Pro Thr Val Lys Gln Arg Glu Glu Leu Leu  
 340 345 350  
 Arg Ile Cys Leu His Ala Phe Asn Thr Lys Asn Glu Ile Asp His Leu  
 355 360 365  
 Leu His Thr Leu Glu Gln Ile Phe Leu Cys Asn Val Ser Ser Leu  
 370 375 380

<210> 1045  
 <211> 334  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1045  
 Ala Lys His Met Arg Glu Glu Thr Val Ser Trp Ser Leu Glu Asp Ile  
 1 5 10 15  
 Arg Glu Ile Tyr His Thr Pro Val Phe Glu Leu Ile His Lys Ala Asn  
 20 25 30  
 Ala Ile Leu Arg Ser Asn Phe Leu His Ser Glu Leu Gln Thr Cys Tyr  
 35 40 45  
 Leu Ile Ser Ile Lys Thr Gly Gly Cys Val Glu Asp Cys Ala Tyr Cys  
 50 55 60  
 Ala Gln Ser Ser Arg Tyr His Thr His Val Thr Pro Glu Pro Met Met  
 65 70 75 80  
 Lys Ile Val Asp Val Val Glu Arg Ala Lys Arg Ala Val Glu Leu Gly  
 85 90 95  
 Ala Thr Arg Val Cys Leu Gly Ala Ala Trp Arg Asn Ala Lys Asp Asp  
 100 105 110  
 Arg Tyr Phe Asp Arg Val Leu Ala Met Val Lys Ser Ile Thr Asp Leu  
 115 120 125  
 Gly Ala Glu Val Cys Cys Ala Leu Gly Met Leu Ser Glu Glu Gln Ala  
 130 135 140  
 Lys Lys Leu Tyr Asp Ala Gly Leu Tyr Ala Tyr Asn His Asn Leu Asp  
 145 150 155 160  
 Ser Ser Pro Glu Phe Tyr Glu Thr Ile Ile Thr Thr Arg Ser Tyr Glu  
 165 170 175  
 Asp Arg Leu Asn Thr Leu Asp Val Val Asn Lys Ser Gly Ile Ser Thr  
 180 185 190  
 Cys Cys Gly Gly Ile Val Gly Met Gly Glu Ser Glu Glu Asp Arg Ile  
 195 200 205  
 Lys Leu Leu His Val Leu Ala Thr Arg Asp His Ile Pro Glu Ser Val  
 210 215 220  
 Pro Val Asn Leu Leu Trp Pro Ile Asp Gly Thr Pro Leu Gln Asp Gln  
 225 230 235 240  
 Pro Pro Ile Ser Phe Trp Glu Val Leu Arg Thr Ile Ala Thr Ala Arg  
 245 250 255  
 Val Val Phe Pro Arg Ser Met Val Arg Leu Ala Ala Gly Arg Ala Phe  
 260 265 270  
 Leu Thr Val Glu Gln Gln Thr Leu Cys Phe Leu Ala Gly Ala Asn Ser  
 275 280 285  
 Ile Phe Tyr Gly Asp Lys Leu Leu Thr Val Glu Asn Asn Asp Ile Asp  
 290 295 300  
 Glu Asp Ala Glu Met Ile Lys Leu Leu Gly Leu Ile Pro Arg Pro Ser  
 305 310 315 320  
 Phe Gly Ile Glu Arg Gly Asn Pro Cys Tyr Ala Asn Asn Ser  
 325 330

<210> 1046  
 <211> 234  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1046  
 Gly Thr Leu Pro Met Asn Thr Ser His Arg Lys Thr Leu Val Phe Ser  
 1 5 10 15  
 Tyr Leu Ser Ser Thr Phe Thr Leu Leu Leu Val Leu Ser Asn Leu Val  
 20 25 30  
 Leu Ser Ser Lys Leu Ile Pro Thr Thr Phe Phe Asn Phe Ile Ile Pro  
 35 40 45  
 Gly Gly Leu Ile Leu Tyr Pro Leu Thr Phe Leu Ile Ser Asp Val Val  
 50 55 60  
 Asn Glu Ile Phe Gly Pro Lys Lys Ala Arg Val Met Ile Phe Ser Ala  
 65 70 75 80  
 Phe Ile Ala Asn Leu Leu Ala Ser Ser Ile Val Gln Ile Phe Met Phe  
 85 90 95  
 Phe Pro Val Ala Ser Pro Glu Met Gln Thr Ala Trp His Cys Leu Phe  
 100 105 110  
 Asp Leu Ser Pro Leu Arg Phe Leu Ala Ser Leu Leu Ala Phe Ile Val  
 115 120 125  
 Ser Gln Gln Leu Asp Ile Val Leu Tyr Thr Phe Phe Lys Asn Arg Thr  
 130 135 140  
 Pro Asn Ser Ser Leu Trp Leu Arg Ser Asn Gly Ser Thr Trp Ile Ser  
 145 150 155 160  
 Gln Ile Pro Asp Thr Phe Ile Val Asp Thr Cys Ile Leu Tyr Phe Gly  
 165 170 175  
 Met Gly Leu Ser Phe Pro Gln Thr Leu Asn Ile Met Phe Tyr Ser Tyr  
 180 185 190  
 Ile Tyr Lys Ile Thr Phe Cys Val Leu Thr Thr Pro Leu Phe Tyr Leu  
 195 200 205  
 Ala Val Asn Thr Ile Arg Lys Phe Leu Gly Met Pro Ser Thr Lys Ile  
 210 215 220  
 Ala Asn Thr Val Pro Leu Ile Asn Gln Pro  
 225 230

<210> 1047  
 <211> 362  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1047  
 Val His Tyr Cys Glu Arg Thr Leu Asp Pro Lys Tyr Ile Leu Lys Ile  
 1 5 10 15  
 Ala Leu Lys Leu Arg Gln Ser Leu Ser Leu Phe Phe Gln Asn Ser Gln  
 20 25 30  
 Ser Leu Gln Arg Ala Tyr Ser Thr Pro Tyr Ser Tyr Tyr Arg Ile Ile  
 35 40 45  
 Leu Gln Lys Glu Asn Lys Glu Lys Gln Ala Leu Ala Arg His Lys Cys  
 50 55 60  
 Ile Ser Ile Leu Glu Phe Phe Lys Asn Leu Leu Phe Val His Leu Leu  
 65 70 75 80  
 Ser Leu Ser Lys Asn Gln Arg Glu Gly Cys Ser Thr Asp Met Ala Val  
 85 90 95  
 Val Ser Thr Pro Phe Phe Asn Arg Asn Leu Trp Tyr Arg Leu Leu Ser  
 100 105 110  
 Ser Arg Phe Ser Leu Trp Lys Ser Tyr Cys Pro Arg Phe Phe Leu Asp  
 115 120 125  
 Tyr Leu Glu Ala Phe Gly Leu Leu Ser Asp Phe Leu Asp His Gln Ala  
 130 135 140

Val Ile Lys Phe Phe Glu Leu Glu Thr His Phe Ser Tyr Tyr Pro Val  
 145 150 155 160  
 Ser Gly Phe Val Ala Pro His Gln Tyr Leu Ser Leu Leu Gln Asp Arg  
 165 170 175  
 Tyr Phe Pro Ile Ala Ser Val Met Arg Thr Leu Asp Lys Asp Asn Phe  
 180 185 190  
 Ser Leu Thr Pro Asp Leu Ile His Asp Leu Leu Gly His Val Pro Trp  
 195 200 205  
 Leu Leu His Pro Ser Phe Ser Glu Phe Phe Ile Asn Met Gly Arg Leu  
 210 215 220  
 Phe Thr Lys Val Ile Glu Lys Val Gln Ala Leu Pro Ser Lys Lys Gln  
 225 230 235 240  
 Arg Ile Gln Thr Leu Gln Ser Asn Leu Ile Ala Ile Val Arg Cys Phe  
 245 250 255  
 Trp Phe Thr Val Glu Ser Gly Leu Ile Glu Asn His Glu Gly Arg Lys  
 260 265 270  
 Ala Tyr Gly Ala Val Leu Ile Ser Ser Pro Gln Glu Leu Gly His Ala  
 275 280 285  
 Phe Ile Asp Asn Val Arg Val Leu Pro Leu Glu Leu Asp Gln Ile Ile  
 290 295 300  
 Arg Leu Pro Phe Asn Thr Ser Thr Pro Gln Glu Thr Leu Phe Ser Ile  
 305 310 315 320  
 Arg His Phe Asp Glu Leu Val Glu Leu Thr Ser Lys Leu Glu Trp Met  
 325 330 335  
 Leu Asp Gln Gly Leu Leu Glu Ser Ile Pro Leu Tyr Asn Gln Glu Lys  
 340 345 350  
 Tyr Leu Ser Gly Phe Glu Val Leu Cys Gln  
 355 360

<210> 1048  
 <211> 269  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1048  
 Phe Gly Ser Arg Asn Met Gly Ser Ser Met His Val Gly Val Ile Gly  
 1 5 10 15  
 Cys Ser Gly Arg Thr Gly Lys Val Ile Val Ser Ala Leu Glu Gln Ser  
 20 25 30  
 Ser Glu Tyr Thr Leu Gly Pro Gly Phe Ser Arg Ser Ser Ala Leu Thr  
 35 40 45  
 Leu Phe Gln Val Ile Ala His Asn Asp Val Leu Val Asp Phe Ser His  
 50 55 60  
 Pro Leu Leu Thr Lys Glu Val Val Ala His Leu Leu Ile Ser Pro Lys  
 65 70 75 80  
 Pro Leu Ile Ile Gly Thr Thr Gly Phe Pro Gly Lys Cys Lys Glu Ala  
 85 90 95  
 His Asp Ser Leu Glu Glu Leu Thr His Ile Val Pro Val Val Cys  
 100 105 110  
 Pro Asn Ala Ser Leu Gly Ala Tyr Ile His Lys Arg Leu Val Met Leu  
 115 120 125  
 Leu Ser Gln Leu Cys Asn Pro Gln Phe Asp Ile Arg Ile Arg Glu Thr  
 130 135 140  
 His His Arg Tyr Lys Lys Asp Ser Leu Ser Gly Thr Ala Gln Asp Leu  
 145 150 155 160  
 Leu Asp Thr Ile Gln Gln Val Lys Gln Glu Asp Trp Gly Glu Glu Tyr  
 165 170 175  
 Glu Val Gly Gln Arg Asp Ser Ser Lys Lys Thr Ile Glu Val Gln Ser  
 180 185 190  
 Ser Arg Val Gly Asp Ile Pro Gly Glu His Glu Val Ala Phe Ile Ser  
 195 200 205

Ser Gly Glu Gln Ile Leu Val Arg His Thr Val Phe Ser Arg Asn Val  
 210 215 220  
 Phe Gly Arg Gly Ile Leu Ser Ile Leu Asp Trp Leu Lys Thr Leu Asn  
 225 230 235 240  
 Pro Gln Pro Gly Leu Tyr Ser Leu Gly Asp Thr Leu Glu Leu Val Leu  
 245 250 255  
 Arg Asn Glu His Cys Leu Leu Lys Lys Thr Thr Asp His  
 260 265

<210> 1049  
 <211> 339  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1049  
 Asp Gly Glu Arg Lys Gly Met Arg Ile Ala Val Leu Gly Val Thr Gly  
 1 5 10 15  
 Leu Val Gly Gln Lys Phe Val Ala Leu Leu His Lys Trp Tyr Arg Asp  
 20 25 30  
 Trp Val Ile Ala Glu Val Val Ala Ser Asn Ser Lys Tyr Gly Gln Ser  
 35 40 45  
 Tyr Gly Asp Ala Cys Ile Trp Gln Glu Pro Ile Gly Pro Met Pro Glu  
 50 55 60  
 Met Val Arg Asp Leu Pro Ile Arg Lys Ile Glu Glu Val Gln Ser Asp  
 65 70 75 80  
 Ile Val Val Ser Phe Leu Pro Ser Ser Ala Glu Ser Met Glu Ala Tyr  
 85 90 95  
 Cys Leu Ser Gln Gly Lys Val Val Phe Ser Asn Ala Ser Thr Tyr Arg  
 100 105 110  
 Met His Ser Ser Val Pro Ile Ile Pro Glu Val Asn Ser Asp His  
 115 120 125  
 Phe Gln Leu Leu Glu Glu Gln Pro Tyr Pro Gly Lys Ile Ile Thr Ser  
 130 135 140  
 Pro Asn Cys Cys Val Ser Gly Ile Thr Leu Ala Leu Ala Pro Leu Arg  
 145 150 155 160  
 Lys Phe Ser Leu Asp His Val His Ile Val Thr Leu Gln Ser Ala Ser  
 165 170 175  
 Gly Ala Gly Tyr Pro Gly Val Pro Ser Leu Asp Leu Leu Ala Asn Thr  
 180 185 190  
 Val Pro His Ile Val Gly Glu Glu Glu Lys Ile Leu Arg Glu Thr Val  
 195 200 205  
 Lys Ile Leu Gly Ser Ser Lys Gln Pro Leu Pro Cys Lys Leu Ser Val  
 210 215 220  
 Thr Val His Arg Val Pro Val Ala Tyr Gly His Thr Leu Ser Leu His  
 225 230 235 240  
 Val Thr Phe Ser Lys Asp Val Asp Leu Asp Glu Ile Leu Tyr Ser Tyr  
 245 250 255  
 Gln Glu Lys Asn Lys Glu Phe Pro Asn Thr Tyr Gln Leu Tyr Asp Asn  
 260 265 270  
 Pro Trp Ser Pro Gln Ala Arg Lys His Leu Ser His Asp Asp Met Arg  
 275 280 285  
 Val His Leu Gly Pro Ile Thr Tyr Gly Gly Asp Phe Arg Thr Ile Lys  
 290 295 300  
 Met Asn Val Leu Ile His Asn Leu Val Arg Gly Ala Ala Gly Thr Leu  
 305 310 315 320  
 Leu Ala Ser Met Glu Asn Tyr Phe Phe Asp Tyr Leu Lys Arg Glu Met  
 325 330 335  
 Cys Leu Arg

<210> 1050  
 <211> 443  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1050  
 Glu Gly Asn Val Ser Lys Ile Val Tyr Lys Phe Gly Gly Thr Ser Leu  
 1 5 10 15  
 Ala Thr Ala Glu Asn Ile Cys Leu Val Cys Asp Ile Ile Cys Lys Asp  
 20 25 30  
 Lys Pro Ser Phe Val Val Val Ser Ala Ile Ala Gly Val Thr Asp Leu  
 35 40 45  
 Leu Val Asp Phe Cys Ser Ser Leu Arg Glu Arg Glu Glu Val Leu  
 50 55 60  
 Arg Lys Ile Glu Gly Lys His Glu Glu Ile Val Lys Asn Leu Ala Ile  
 65 70 75 80  
 Pro Phe Pro Val Ser Thr Trp Thr Ser Arg Leu Leu Pro Tyr Leu Gln  
 85 90 95  
 His Leu Glu Ile Ser Asp Leu Asp Phe Ala Arg Ile Leu Ser Leu Gly  
 100 105 110  
 Glu Asp Ile Ser Ala Ser Leu Val Arg Ala Val Cys Ser Thr Arg Gly  
 115 120 125  
 Trp Asp Leu Gly Phe Leu Glu Ala Arg Ser Val Ile Leu Thr Asp Asp  
 130 135 140  
 Ser Tyr Arg Arg Ala Ser Pro Asn Leu Asp Leu Met Lys Ala His Trp  
 145 150 155 160  
 His Gln Leu Glu Leu Asn Gln Pro Ser Tyr Ile Ile Gln Gly Phe Ile  
 165 170 175  
 Gly Ser Asn Gly Leu Gly Glu Thr Val Leu Leu Gly Arg Gly Gly Ser  
 180 185 190  
 Asp Tyr Ser Ala Thr Leu Ile Ala Glu Leu Ala Arg Ala Thr Glu Val  
 195 200 205  
 Arg Ile Tyr Thr Asp Val Asn Gly Ile Tyr Thr Met Asp Pro Lys Val  
 210 215 220  
 Ile Ser Asp Ala Gln Arg Ile Pro Glu Leu Ser Phe Glu Glu Met Gln  
 225 230 235 240  
 Asn Leu Ala Ser Phe Gly Ala Lys Val Leu Tyr Pro Pro Met Leu Phe  
 245 250 255  
 Pro Cys Met Arg Ala Gly Ile Pro Ile Phe Val Thr Ser Thr Phe Asp  
 260 265 270  
 Pro Glu Lys Gly Gly Thr Trp Val Tyr Ala Val Asp Lys Ser Val Ser  
 275 280 285  
 Tyr Glu Pro Arg Ile Lys Ala Leu Ser Leu Ser Gln Tyr Gln Ser Phe  
 290 295 300  
 Cys Ser Val Asp Tyr Thr Val Leu Gly Cys Gly Gly Leu Glu Glu Ile  
 305 310 315 320  
 Leu Gly Ile Leu Glu Ser His Gly Ile Asp Pro Glu Leu Met Ile Ala  
 325 330 335  
 Gln Asn Asn Val Val Gly Phe Val Met Asp Asp Asp Ile Ile Ser Gln  
 340 345 350  
 Glu Ala Gln Glu His Leu Val Asp Val Leu Ser Leu Ser Ser Val Thr  
 355 360 365  
 Arg Leu His His Ser Val Ala Leu Ile Thr Met Ile Gly Asp Asn Leu  
 370 375 380  
 Ser Ser Pro Lys Val Val Ser Thr Ile Thr Glu Lys Leu Arg Gly Phe  
 385 390 395 400  
 Gln Gly Pro Val Phe Cys Phe Cys Gln Ser Ser Met Ala Leu Ser Phe  
 405 410 415  
 Val Val Ala Ser Glu Leu Ala Glu Gly Ile Ile Glu Glu Leu His Asn  
 420 425 430

Asp Tyr Val Lys Gln Lys Ala Ile Val Ala Thr  
 435 440

<210> 1051  
 <211> 305  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1051  
 Leu Cys Lys Thr Lys Ser Tyr Ser Arg His Val Gly Arg Ile Met His  
 1 5 10 15  
 Leu Leu Thr Ala Thr Val Thr Pro Phe Phe Pro Asn Gly Thr Ile Asp  
 20 25 30  
 Phe Ala Ser Leu Glu Arg Leu Leu Ser Phe Gln Asp Ala Val Gly Asn  
 35 40 45  
 Gly Val Val Leu Leu Gly Ser Thr Gly Glu Gly Leu Ser Leu Thr Lys  
 50 55 60  
 Lys Glu Lys Gln Ala Leu Ile Cys Phe Ala Cys Asp Leu Gln Leu Lys  
 65 70 75 80  
 Val Pro Leu Phe Val Gly Thr Ser Gly Thr Leu Leu Glu Glu Val Leu  
 85 90 95  
 Asp Trp Ile His Phe Cys Asn Asp Leu Pro Ile Ser Gly Phe Leu Met  
 100 105 110  
 Thr Thr Pro Ile Tyr Thr Lys Pro Lys Leu Cys Gly Gln Ile Leu Trp  
 115 120 125  
 Phe Glu Ala Val Leu Asn Ala Ala Lys His Pro Ala Ile Leu Tyr Asn  
 130 135 140  
 Ile Pro Ser Arg Ala Ala Thr Pro Leu Tyr Leu Asp Thr Val Lys Ala  
 145 150 155 160  
 Leu Ala His His Pro Gln Phe Leu Gly Ile Lys Asp Ser Gly Gly Ser  
 165 170 175  
 Val Glu Glu Phe Gln Ser Tyr Lys Ser Ile Ala Pro His Ile Gln Leu  
 180 185 190  
 Tyr Cys Gly Asp Asp Val Phe Trp Ser Glu Met Ala Ala Cys Gly Ala  
 195 200 205  
 His Gly Leu Ile Ser Val Leu Ser Asn Ala Trp Pro Glu Glu Ala Arg  
 210 215 220  
 Glu Tyr Val Leu Asn Pro Gln Glu Gln Asp Tyr Arg Ser Leu Trp Met  
 225 230 235 240  
 Glu Thr Cys Arg Trp Val Tyr Thr Thr Thr Asn Pro Ile Gly Ile Lys  
 245 250 255  
 Ala Ile Leu Ala Tyr Lys Lys Ala Ile Thr His Ala Gln Leu Arg Leu  
 260 265 270  
 Pro Leu Ser Ile Glu Asp Phe Asp Leu Glu Asn Val Ser Pro Ala Val  
 275 280 285  
 Glu Ser Met Leu Ala Trp Pro Lys Leu Arg Thr Ser Val Phe Ser Tyr  
 290 295 300  
 Ser  
 305

<210> 1052  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1052  
 Phe Phe Met Thr Pro Lys Ser Ile Gln Gln Leu His Leu Ile Lys Thr  
 1 5 10 15  
 Ile Asp Pro Val Arg Lys Ile Ser Pro Val Thr Thr Lys Lys Ser Ser  
 20 25 30

Phe Phe Arg Gln Ser Leu Leu Arg Phe Leu Glu Leu Phe Trp Met Phe  
           35                                  40                                  45  
 Leu Tyr Cys Ile Arg Ser Ile Arg Phe His Cys Val His Ile Ala Thr  
           50                                  55                                  60  
 Phe Ile Cys Arg Gly Leu Ile Leu Phe Leu Thr Thr Leu Phe Leu Ser  
 65                                  70                                  75                                  80  
 Met Ile Cys Ile Leu His Phe Ile Thr Leu Pro Trp Ile Cys Lys Glu  
                                   85                                  90                                  95  
 Asp Pro Arg Ile Ile Arg Lys Asn Lys  
                                   100                                  105

<210> 1053  
 <211> 256  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1053  
 Phe Phe Ile Gln Lys Met Lys Tyr Asn Ser Arg Glu Lys Ile Lys Ser  
 1                                  5                                  10                                  15  
 Ala Leu Arg Ile Cys Ser Ser Tyr Cys Ile Thr Val Phe Arg Asn Asn  
           20                                  25                                  30  
 Phe Ser Leu Ser Cys Tyr Asp Lys Ile Phe Tyr Ser Leu Ser Cys Tyr  
           35                                  40                                  45  
 Val Phe Asn Gly Pro Asn Ser Ile Gly Arg Cys Arg Ser Phe Cys Phe  
           50                                  55                                  60  
 Phe Arg Gly Lys Lys Thr Glu Val Glu Thr Lys Glu Val Lys Ile Lys  
 65                                  70                                  75                                  80  
 Asp Glu Ile Arg Pro Ser Leu Glu Gly Asn Asp Pro Val Lys Val Ala  
                                   85                                  90                                  95  
 Glu Ser Phe Pro Lys Arg Arg Ala Ala Leu Glu Ser Leu Ser Ser Gln  
           100                                  105                                  110  
 Ser Ser Ile Gly Asn Leu Cys Ala Ile Ser Asn Phe Leu Asp Ser Gln  
           115                                  120                                  125  
 Met Leu Ser Arg Asn Phe Ser Lys Glu Ile Trp Gly Ser Thr Ile Phe  
           130                                  135                                  140  
 Thr Arg Ser Lys Ser Thr Cys Asp Ala Glu Gly Ser Glu Pro Phe Arg  
 145                                  150                                  155                                  160  
 Tyr Thr Ala Cys Gly Tyr Leu Ala Gly Leu Arg Ser Lys Leu Ala Gly  
                                   165                                  170                                  175  
 Ser Tyr Glu Leu Gly Val Thr Ala Gly Leu Leu Gln Gly Arg Leu Lys  
           180                                  185                                  190  
 Asp Val Ser Asp Ser His Arg Thr Arg Ala Thr Ser Ser Ile Leu Ser  
           195                                  200                                  205  
 Val His Gly Ser Met Val Thr Arg Pro Leu Ser Cys Thr Lys Tyr Ile  
           210                                  215                                  220  
 Val Gly Lys Ala Arg Pro Leu Leu Phe Phe Phe Arg Leu Thr Ser Asp  
 225                                  230                                  235                                  240  
 Val Arg Arg Asp Leu Lys Lys Lys Phe Arg Leu Glu Phe Cys Lys Asp  
                                   245                                  250                                  255

<210> 1054  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1054  
 Lys Lys Ser Ser Asp Leu Asn Phe Ala Lys Ile Asp His Asn His Leu  
 1                                  5                                  10                                  15  
 Tyr Leu Thr Cys Leu Gly Asp Leu Gly Val Ala Cys Pro Ile Leu Ser  
           20                                  25                                  30

Thr Asp Cys Leu Pro Asn Tyr Ser Glu Lys Ala Ser His Glu Val Leu  
 35 40 45  
 Val Tyr Ser Lys Phe Arg Cys Ile Ser Gly Glu Pro Ser Arg Leu Ala  
 50 55 60  
 Thr Ser Gly Asn Asp Thr Tyr Tyr Ser Ile Val Ser Leu Pro Ile Gly  
 65 70 75 80  
 Leu Arg Tyr Glu Val Thr Ser Pro Ser Gly Arg His Asp Phe Asn Ile  
 85 90 95  
 Asp Met His Val Ala Pro Lys Ile Gly Ala Val Leu Ser His Gly Thr  
 100 105 110  
 Arg Glu Ala Lys Glu Ile Pro Gly Ser Ser Lys Asp Tyr Ala Phe Phe  
 115 120 125  
 Ser Leu Thr Ala Arg Glu Ser Leu Met Ile Ser Glu Lys Leu Ala Met  
 130 135 140  
 Thr Phe Gln Val Ser Glu Val Ile Gln Asn Cys Tyr Ser Gln Cys Thr  
 145 150 155 160  
 Lys Val Thr Lys Thr Asn Leu Lys Glu Gln Tyr Arg His Leu Ser His  
 165 170 175  
 Asn Thr Gly Phe Glu Leu Ser Val Lys Ser Ala Phe  
 180 185

<210> 1055  
 <211> 819  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1055  
 Ser Arg Trp His His Arg Phe Ile Met Gln Val Leu Leu Ser Pro Gln  
 1 5 10 15  
 Leu Pro Pro Pro Gln His Ser Val Gly Ser Ile Ser Ser Pro Ser  
 20 25 30  
 Lys Leu Arg Val Leu Ala Ile Thr Phe Leu Val Phe Gly Met Leu Leu  
 35 40 45  
 Leu Ile Ser Gly Ala Leu Phe Leu Thr Leu Gly Ile Pro Gly Leu Ser  
 50 55 60  
 Ala Ala Ile Ser Phe Gly Leu Gly Ile Gly Leu Ser Ala Leu Gly Gly  
 65 70 75 80  
 Val Leu Met Ile Ser Gly Leu Leu Cys Leu Leu Val Lys Arg Glu Ile  
 85 90 95  
 Pro Thr Val Arg Pro Glu Glu Ile Pro Glu Gly Val Ser Leu Ala Pro  
 100 105 110  
 Ser Glu Glu Pro Ala Leu Gln Ala Ala Gln Lys Thr Leu Ala Gln Leu  
 115 120 125  
 Pro Lys Glu Leu Asp Gln Leu Asp Thr Asp Ile Gln Glu Val Phe Ala  
 130 135 140  
 Cys Leu Arg Lys Leu Lys Asp Ser Lys Tyr Glu Ser Arg Ser Phe Leu  
 145 150 155 160  
 Asn Asp Ala Lys Lys Glu Leu Arg Val Phe Asp Phe Val Val Glu Asp  
 165 170 175  
 Thr Leu Ser Glu Ile Phe Glu Leu Arg Gln Ile Val Ala Gln Glu Gly  
 180 185 190  
 Trp Asp Leu Asn Phe Leu Ile Asn Gly Gly Arg Ser Leu Met Met Thr  
 195 200 205  
 Ala Glu Ser Glu Ser Leu Asp Leu Phe His Val Ser Lys Arg Leu Gly  
 210 215 220  
 Tyr Leu Pro Ser Gly Asp Val Arg Gly Glu Gly Leu Lys Lys Ser Ala  
 225 230 235 240  
 Lys Glu Ile Val Ala Arg Leu Met Ser Leu His Cys Glu Ile His Lys  
 245 250 255  
 Val Ala Val Ala Phe Asp Arg Asn Ser Tyr Ala Met Ala Glu Lys Ala  
 260 265 270



Phe Ala Lys Ala Leu Gly Ala Leu Glu Glu Ser Val Tyr Arg Ser Leu  
275 280 285  
Thr Gln Ser Tyr Arg Asp Lys Phe Leu Glu Ser Glu Arg Ala Lys Ile  
290 295 300  
Pro Trp Asn Gly His Ile Thr Trp Leu Arg Asp Asp Ala Lys Ser Gly  
305 310 315 320  
Cys Ala Glu Lys Lys Leu Arg Asp Ala Glu Glu Arg Trp Lys Lys Phe  
325 330 335  
Arg Lys Ala Val Phe Trp Val Glu Glu Asp Gly Gly Phe Asp Ile Asn  
340 345 350  
Asn Leu Leu Gly Asp Trp Gly Thr Val Leu Asp Pro Tyr Arg Gln Glu  
355 360 365  
Arg Met Asp Glu Ile Thr Phe His Glu Leu Tyr Glu Lys Thr Thr Phe  
370 375 380  
Leu Lys Arg Leu His Arg Lys Cys Ala Leu Ala Lys Thr Thr Phe Glu  
385 390 395 400  
Lys Lys Arg Ser Lys Lys Asn Leu Gln Ala Val Glu Glu Ala Asn Ala  
405 410 415  
Arg Arg Leu Lys Tyr Val Arg Asp Trp Tyr Asp Gln Glu Phe Gln Lys  
420 425 430  
Ala Gly Glu Arg Leu Glu Lys Leu His Ala Leu Tyr Pro Glu Val Ser  
435 440 445  
Val Ser Ile Arg Glu Asn Lys Ile Gln Glu Thr Arg Ser Asn Leu Glu  
450 455 460  
Lys Ala Tyr Glu Ala Ile Glu Glu Asn Tyr Arg Cys Cys Val Arg Glu  
465 470 475 480  
Gln Glu Asp Tyr Trp Lys Glu Glu Glu Lys Arg Glu Ala Glu Phe Arg  
485 490 495  
Glu Arg Gly Asn Lys Ile Leu Ser Pro Glu Glu Leu Glu Ser Ser Leu  
500 505 510  
Glu Gln Phe Asp His Gly Leu Lys Asn Phe Ser Glu Lys Leu Met Glu  
515 520 525  
Leu Glu Gly His Ile Leu Lys Leu Gln Lys Glu Ala Thr Ala Glu Val  
530 535 540  
Glu Asn Lys Ile Leu Ser Asp Ala Glu Ser Arg Leu Glu Ile Val Phe  
545 550 555 560  
Glu Asp Val Lys Glu Met Pro Cys Arg Ile Glu Glu Ile Glu Lys Thr  
565 570 575  
Leu Arg Met Ala Glu Leu Pro Leu Leu Pro Thr Lys Lys Ala Phe Glu  
580 585 590  
Lys Ala Cys Ser Gln Tyr Asn Ser Cys Ala Glu Met Leu Glu Lys Val  
595 600 605  
Lys Pro Tyr Cys Lys Glu Ser Leu Ala Tyr Val Thr Ser Lys Glu Arg  
610 615 620  
Leu Val Ser Leu Asp Glu Asp Leu Arg Arg Ala Tyr Thr Glu Cys Gln  
625 630 635 640  
Lys Arg Phe Gln Gly Asp Ser Gly Leu Glu Ser Glu Val Arg Ala Cys  
645 650 655  
Arg Glu Gln Leu Arg Glu Arg Ile Gln Glu Phe Glu Thr Gln Gly Leu  
660 665 670  
Asp Leu Val Glu Lys Glu Leu Leu Cys Val Ser Ser Arg Leu Arg Asn  
675 680 685  
Thr Glu Cys Asp Cys Val Ser Gly Val Lys Lys Glu Ala Pro Pro Gly  
690 695 700  
Lys Lys Phe Tyr Ala Gln Tyr Tyr Asp Glu Ile Tyr Arg Val Arg Val  
705 710 715 720  
Gln Ser Arg Trp Met Thr Met Ser Glu Arg Leu Arg Glu Gly Val Gln  
725 730 735  
Ala Cys Asn Lys Met Leu Lys Ala Gly Leu Ser Glu Glu Asp Lys Val  
740 745 750

Leu Lys Glu Glu Glu Tyr Trp Leu Tyr Arg Glu Glu Arg Lys Asn Lys  
           755                          760                          765  
 Glu Lys Arg Leu Val Gly Thr Lys Ile Val Ala Thr Gln Gln Arg Val  
       770                          775                          780  
 Ala Ala Phe Glu Ser Ile Glu Val Pro Glu Ile Pro Glu Ala Pro Glu  
 785                          790                          795                          800  
 Glu Lys Pro Ser Leu Leu Asp Lys Ala Arg Ser Leu Phe Thr Arg Glu  
                           805                          810                          815  
 Asp His Thr

<210> 1056  
 <211> 313  
 <212> PRT  
 <213> Chlamydia pneumoniae

          <400> 1056  
 Cys Lys Tyr Leu Tyr His His Ser Tyr Pro Pro Pro Pro Asp His Ser  
   1                          5                          10                          15  
 Val Gly Ala Phe Phe Cys Leu Ser Lys Phe Arg Val Leu Ala Ile Thr  
           20                          25                          30  
 Phe Leu Val Leu Gly Val Leu Phe Leu Ile Ser Gly Ala Leu Phe Leu  
       35                          40                          45  
 Thr Leu Gly Ile Ser Gly Leu Ser Ala Ala Ile Ser Phe Gly Leu Gly  
       50                          55                          60  
 Ile Gly Leu Ser Ala Leu Gly Gly Val Leu Val Val Ser Gly Leu Leu  
 65                          70                          75                          80  
 Cys Leu Leu Ala Lys Arg Glu Val Pro Thr Val Arg Pro Glu Glu Ile  
           85                          90                          95  
 Pro Glu Gly Val Ser Val Ala Pro Ser Glu Glu Pro Ala Leu Gln Ala  
       100                          105                          110  
 Thr Gln Lys Thr Leu Ala Gln Leu Pro Lys Glu Leu Asp Gln Leu Asp  
       115                          120                          125  
 Arg Tyr Ile Gln Glu Val Val Ser Cys Leu Gly Lys Leu Lys Asp Leu  
       130                          135                          140  
 Arg Cys Glu Asp Gln Gly Leu Leu Lys Asp Ala Lys Glu Lys Leu Gln  
 145                          150                          155                          160  
 Val Phe Asp Phe Val Trp Lys Asp Met Met Thr Glu Phe Val Glu Leu  
           165                          170                          175  
 Gln Gln Ile Met Asp Gln Glu Gly Trp Tyr Leu Lys Cys Leu Ile Gln  
       180                          185                          190  
 Glu Met Arg Asp Ile Gly Ser Thr Leu Phe Met Ser Gln Val Ser Leu  
       195                          200                          205  
 Phe Lys Leu Trp Glu Trp Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg  
       210                          215                          220  
 Gly Glu Arg Leu Lys Lys Ser Ala Arg Glu Val Val Asp Arg Phe Met  
 225                          230                          235                          240  
 Arg Arg Ile Cys Asp Thr Arg Lys Val Ala Met Thr Phe Asp Arg Asn  
           245                          250                          255  
 Ala Tyr Gly Val Ala Lys Thr Ala Phe Glu Lys Ala Phe Gly Ala Leu  
       260                          265                          270  
 Glu Thr Cys Val Tyr Lys Ser Met Thr Glu Ser Tyr Arg Glu Ala Phe  
       275                          280                          285  
 Cys Glu Tyr Lys Lys Thr Lys Ile Leu Arg Asp Glu Glu Lys Ile Leu  
       290                          295                          300  
 Arg Ile Cys Tyr Leu Glu Leu Arg Arg  
       305                          310

<210> 1057  
 <211> 249  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1057  
 Gly Glu Asp Ile Lys Asp Met Leu Ser Arg Val Glu Glu Ile Glu Met  
 1 5 10 15  
 Met Leu Arg Val Ile Glu Leu Pro Leu Leu Pro Ile Lys Gln Ala Leu  
 20 25 30  
 Glu Lys Ala Phe Val Gln Tyr Asn Ser Tyr Lys Ala Lys Leu Thr Lys  
 35 40 45  
 Val Glu Pro Cys Phe Arg Glu Ser Pro Ala Tyr Ile Thr Ser Glu Glu  
 50 55 60  
 Arg Leu Gln Ser Leu Asp Gln Thr Leu Glu Arg Ala Tyr Lys Glu Tyr  
 65 70 75 80  
 Gln Lys Arg Phe Gln Glu Pro Ser Arg Leu Glu Ser Glu Val Ser Gly  
 85 90 95  
 Cys Arg Glu His Leu Arg Glu Gln Val Lys Gln Phe Glu Thr Gln Gly  
 100 105 110  
 Leu Asp Leu Ile Lys Glu Glu Leu Ile Phe Val Ser Asp Val Leu Phe  
 115 120 125  
 Arg Lys Met Val Ser Cys Leu Val Ser Thr Val His Val Pro Phe Met  
 130 135 140  
 Glu Phe Tyr Tyr Glu Tyr Phe Glu Leu His Arg Leu Arg Leu Arg Ala  
 145 150 155 160  
 Gln Trp Met Ala Asn Ala Glu Ile Tyr Ser Lys Val Arg Lys Ala Phe  
 165 170 175  
 Pro Glu Met Leu Lys Glu Thr Leu Glu Lys Ala Lys Ala Pro Arg Glu  
 180 185 190  
 Glu Glu Tyr Trp Leu Leu Cys Glu Glu Arg Lys Ser Lys Glu Lys Arg  
 195 200 205  
 Leu Ile Leu Asn Lys Ile Glu Ala Ala Gln Gln Arg Val Lys Asp Leu  
 210 215 220  
 Glu Pro Pro Pro Ile Lys Glu Thr Gly Lys Gln Lys Arg Lys Lys Glu  
 225 230 235 240  
 Tyr Ser Phe Phe Ile Arg Leu Lys Ser  
 245

<210> 1058  
 <211> 710  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1058  
 Ile Ile His Phe Tyr Phe Phe Asn Phe Ala Met Pro Glu Pro Leu Tyr  
 1 5 10 15  
 Thr Asn Lys Leu Ile Thr Glu Lys Ser Pro Tyr Leu Leu Leu Tyr Ala  
 20 25 30  
 His Thr Pro Val Asn Trp Tyr Pro Trp Gly Ala Glu Ala Phe His Ile  
 35 40 45  
 Ala Ala Ile Glu Asn Lys Pro Val Phe Leu Ser Ile Gly Cys Lys His  
 50 55 60  
 Ser Arg Trp Cys Gln Val Met Leu Gln Glu Ser Tyr Thr Asn Pro Glu  
 65 70 75 80  
 Ile Ala Ala Met Leu Asn Glu Tyr Phe Val Asn Val Lys Val Asp Lys  
 85 90 95  
 Glu Glu Leu Pro Tyr Val Ala Lys Leu Tyr Gly Asp Leu Ala Gln Met  
 100 105 110  
 Leu Ala Val Ser Gly Asp His Gln Glu Thr Val Ser Trp Pro Leu Asn  
 115 120 125

Val Phe Leu Thr Pro Asp Leu Val Pro Phe Phe Ser Val Asn Tyr Leu  
 130 135 140  
 Gly Asn Glu Gly Lys Leu Gly Leu Pro Ser Phe Pro Gln Ile Ile Asp  
 145 150 155 160  
 Lys Leu His Phe Met Trp Glu Asp Ala Glu Glu Arg Glu Ala Leu Val  
 165 170 175  
 Glu Gln Ala Met Lys Val Leu Glu Ile Ala Ser Phe Leu Glu Gly Cys  
 180 185 190  
 Val Arg Lys Glu Ile Leu Asp Glu Ser Ser Leu Lys Arg Thr Val Ala  
 195 200 205  
 Ala Leu Tyr Gln Asp Ile Asp Pro His Tyr Gly Gly Val Lys Ala Phe  
 210 215 220  
 Pro Lys Arg Leu Pro Gly Leu Leu Leu Gln Phe Phe Leu Arg Tyr Ser  
 225 230 235 240  
 Leu Glu Tyr Gln Glu Ser Arg Gly Leu Phe Phe Val Asp Arg Ser Leu  
 245 250 255  
 Ser Met Val Ala Leu Gly Gly Val Arg Asp His Ile Gly Gly Gly Val  
 260 265 270  
 Tyr Ser Tyr Thr Ile Asp Asp Lys Trp Leu Ile Pro Ala Phe Glu Lys  
 275 280 285  
 Arg Leu Ile Asp Asn Ala Leu Met Ala Leu Asn Tyr Leu Glu Ala Trp  
 290 295 300  
 Ala Cys Leu Gly Lys Glu Tyr Arg Gly Ile Gly Lys Gln Ile Leu  
 305 310 315 320  
 Ser Tyr Ile Leu Ser Glu Leu Tyr Ser Pro Glu Val Gly Ala Phe Tyr  
 325 330 335  
 Ser Ser Glu Gln Ala Glu Asn Trp Gly Ala Gly Gly Gln Asn Phe Tyr  
 340 345 350  
 Thr Trp Ser Val Glu Glu Ile Ser Asn Ala Leu Gly Glu Asp Ala Glu  
 355 360 365  
 Ile Phe Cys Asp Tyr Tyr Gly Ile Ser Arg Glu Gly Phe Phe Asn Gly  
 370 375 380  
 Arg Asn Ile Leu His Ile Pro Val His Arg Glu Ile Glu Glu Leu Ser  
 385 390 395 400  
 Glu Lys Tyr His Arg Ser Ile Glu Ala Ile Glu Asp Ile Val Asp Arg  
 405 410 415  
 Ser Arg Asp Ile Leu Lys Gly Ile Arg Ala Gln Arg Ser His Arg Ser  
 420 425 430  
 Lys Asp Asp Leu Ser Leu Thr Phe Asn Asn Gly Trp Met Ile Tyr Thr  
 435 440 445  
 Phe Ala Tyr Ala Gly Arg Leu Leu Gly Glu Val Glu Tyr Ile Glu Ile  
 450 455 460  
 Gly Lys Lys Cys Gly Glu Phe Val Arg Asn Ser Leu Tyr Lys His His  
 465 470 475 480  
 Glu Leu Tyr Arg Arg Trp Arg Glu Gly Glu Ala Lys Tyr Arg Ala Ser  
 485 490 495  
 Leu Glu Asp Tyr Gly Ala Leu Ile Leu Gly Val Leu Ala Leu Tyr Glu  
 500 505 510  
 Ser Gly Cys Gly Ser Phe Trp Leu Ser Phe Ala Glu Glu Leu Met Gln  
 515 520 525  
 Glu Val Val Leu Ser Phe Arg Ser Glu Glu Gly Gly Phe Tyr Ser Val  
 530 535 540  
 Asp Gly Arg Asp Ser Thr Leu Leu Ile Lys Gln Ser Pro Leu Ser Asp  
 545 550 555 560  
 Gly Glu Thr Ile Ser Gly Asn Ala Leu Ile Cys Gln Cys Leu Leu Ser  
 565 570 575  
 Leu His Leu Ile Thr Glu Lys Lys His Tyr Leu Thr Tyr Ala Glu Asp  
 580 585 590  
 Ile Leu Gln Ile Ala Gln Ala Cys Ala His Thr His Lys Phe Ser Ser  
 595 600 605

Leu Gly Leu Leu Ile Ala Ser Gln Asn Tyr Phe Ser Arg Lys His Val  
 610 615 620  
 Lys Val Leu Ile Ala Leu Gly Asp Gln Glu Asp Arg Ser Pro Val Leu  
 625 630 635 640  
 Lys Cys Leu Ser Gly Leu Phe Leu Pro Tyr Leu Ser Leu Ile Trp Met  
 645 650 655  
 Thr Gln Glu Asn Gln Glu His Leu Glu Thr Val Leu Pro Glu Tyr Glu  
 660 665 670  
 His Cys Leu Ile Pro Lys Gly Asp Cys Thr Ala Thr Thr Ile Tyr Val  
 675 680 685  
 Leu Glu Val Asp Gln Cys Lys Arg Phe Lys Asp Leu Glu Leu Phe Arg  
 690 695 700  
 Arg Tyr Leu Ile Ser Leu  
 705 710

<210> 1059

<211> 365

<212> PRT

<213> Chlamydia pneumoniae

<400> 1059

Glu Val Met Lys Leu Tyr Gln Thr Leu Arg Gly Ile Val Leu Val Ser  
 1 5 10 15  
 Thr Gly Cys Ile Phe Leu Gly Met His Gly Gly Tyr Ala Ala Glu Val  
 20 25 30  
 Pro Val Thr Ser Ser Gly Tyr Glu Asn Leu Leu Glu Ser Lys Glu Gln  
 35 40 45  
 Asp Pro Ser Gly Leu Ala Ile His Asp Arg Ile Leu Phe Lys Val Asp  
 50 55 60  
 Glu Glu Asn Val Val Thr Ala Leu Asp Val Ile His Lys Leu Asn Leu  
 65 70 75 80  
 Leu Phe Tyr Asn Ser Tyr Pro His Leu Ile Asp Ser Phe Pro Ala Arg  
 85 90 95  
 Ser Gln Tyr Tyr Thr Ala Met Trp Pro Val Val Leu Glu Ser Val Ile  
 100 105 110  
 Asp Glu Phe Leu Met Val Ala Asp Ala Lys Ala Lys Arg Ile Ala Thr  
 115 120 125  
 Asp Pro Thr Ala Val Asn Gln Glu Ile Glu Glu Met Phe Gly Arg Asp  
 130 135 140  
 Leu Ser Pro Leu Tyr Ala His Phe Glu Met Ser Pro Asn Asp Ile Phe  
 145 150 155 160  
 Asn Val Ile Asp Arg Thr Leu Thr Ala Gln Arg Val Met Gly Met Met  
 165 170 175  
 Val Arg Ser Lys Val Met Leu Lys Val Thr Pro Gly Lys Ile Arg Glu  
 180 185 190  
 Tyr Tyr Arg Lys Leu Glu Glu Glu Ala Ser Arg Lys Val Ile Trp Lys  
 195 200 205  
 Tyr Arg Val Leu Thr Ile Lys Ala Asn Thr Glu Ser Leu Ala Ser Gln  
 210 215 220  
 Ile Ala Asp Lys Val Arg Ala Arg Leu Asn Glu Ala Lys Thr Trp Asp  
 225 230 235 240  
 Lys Asp Arg Leu Thr Ala Leu Val Ile Ser Gln Gly Gly Gln Leu Val  
 245 250 255  
 Cys Ser Glu Glu Phe Ser Arg Glu Asn Ser Glu Leu Ser Gln Ser His  
 260 265 270  
 Lys Gln Glu Leu Asp Leu Ile Gly Tyr Pro Lys Glu Leu Cys Gly Leu  
 275 280 285  
 Pro Lys Ala His Lys Ser Gly Tyr Lys Leu Tyr Met Leu Leu Asp Lys  
 290 295 300  
 Thr Ser Gly Ser Ile Glu Pro Leu Asp Val Met Glu Ser Lys Ile Lys  
 305 310 315 320

Gln His Leu Phe Ala Leu Glu Ala Glu Ser Val Glu Lys Gln Tyr Lys  
 325 330 335  
 Asp Arg Leu Arg Lys Arg Tyr Gly Tyr Asp Ala Ser Met Ile Ala Lys  
 340 345 350  
 Leu Leu Ser Glu Glu Ala Pro Pro Leu Phe Ser Leu Leu  
 355 360 365

<210> 1060  
 <211> 277  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1060  
 Val Thr Arg Ser Ser Pro Ala Gln Leu Ser Arg Phe Leu Ser Glu Ile  
 1 5 10 15  
 Gln Asn Lys Pro Lys Lys Ser Leu Ser Gln Asn Phe Leu Val Asp Gln  
 20 25 30  
 Asn Ile Val Lys Lys Ile Val Ala Thr Ser Glu Val Ile Pro Gln Asp  
 35 40 45  
 Trp Val Leu Glu Ile Gly Pro Gly Phe Gly Ala Leu Thr Glu Glu Leu  
 50 55 60  
 Ile Ala Ala Gly Ala Gln Val Ile Ala Ile Glu Lys Asp Pro Met Phe  
 65 70 75 80  
 Ala Pro Ser Leu Glu Glu Leu Pro Ile Arg Leu Glu Ile Ile Asp Ala  
 85 90 95  
 Cys Lys Tyr Pro Leu Asp Gln Leu Gln Glu Tyr Lys Thr Leu Gly Lys  
 100 105 110  
 Gly Arg Val Val Ala Asn Leu Pro Tyr His Ile Thr Thr Pro Leu Leu  
 115 120 125  
 Thr Lys Leu Phe Leu Glu Ala Pro Asp Phe Trp Lys Thr Val Thr Val  
 130 135 140  
 Met Val Gln Asp Glu Val Ala Arg Arg Ile Val Ala Gln Pro Gly Gly  
 145 150 155 160  
 Arg Asp Tyr Gly Ser Leu Thr Ile Phe Leu Gln Phe Phe Ala Asp Ile  
 165 170 175  
 His Tyr Ala Phe Lys Val Ser Ala Ser Cys Phe Tyr Pro Lys Pro Gln  
 180 185 190  
 Val Gln Ser Ala Val Ile His Met Lys Val Lys Glu Thr Leu Pro Leu  
 195 200 205  
 Ser Asp Glu Glu Ile Pro Val Phe Phe Thr Leu Thr Arg Thr Ala Phe  
 210 215 220  
 Gln Gln Arg Arg Lys Val Leu Ala Asn Thr Leu Lys Gly Leu Tyr Pro  
 225 230 235 240  
 Lys Glu Gln Val Glu Gln Ala Leu Lys Glu Leu Gly Leu Leu Leu Asn  
 245 250 255  
 Val Arg Pro Glu Val Leu Ser Leu Asn Asp Tyr Leu Ala Leu Phe His  
 260 265 270  
 Lys Met Gln Ala Gly  
 275

<210> 1061  
 <211> 656  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1061  
 Tyr Lys Arg Phe Leu Tyr Ile His Ile Thr Lys Val Met Thr Ser Ser  
 1 5 10 15  
 Ser Cys Pro Leu Leu Asp Leu Ile Leu Ser Pro Ala Asp Leu Lys Lys  
 20 25 30

Leu Ser Ile Ser Gln Leu Pro Gly Leu Ala Glu Glu Ile Arg Tyr Arg  
 35 40 45  
 Ile Ile Ser Val Leu Ser Gln Thr Gly Gly His Leu Ser Ser Asn Leu  
 50 55 60  
 Gly Ile Val Glu Leu Thr Ile Ala Leu His Tyr Val Phe Ser Ser Pro  
 65 70 75 80  
 Lys Asp Lys Phe Ile Phe Asp Val Gly His Gln Thr Tyr Pro His Lys  
 85 90 95  
 Leu Leu Thr Gly Arg Asn Asn Glu Gly Phe Asp His Ile Arg Asn Asp  
 100 105 110  
 Asn Gly Leu Ser Gly Phe Thr Asn Pro Thr Glu Ser Asp His Asp Leu  
 115 120 125  
 Phe Phe Ser Gly His Ala Gly Thr Ala Leu Ser Leu Ala Leu Gly Met  
 130 135 140  
 Ala Gln Thr Thr Pro Leu Glu Ser Arg Thr His Val Ile Pro Ile Leu  
 145 150 155 160  
 Gly Asp Ala Ala Phe Ser Cys Gly Leu Thr Leu Glu Ala Leu Asn Asn  
 165 170 175  
 Ile Ser Thr Asp Leu Ser Lys Phe Val Val Ile Leu Asn Asp Asn Asn  
 180 185 190  
 Met Ser Ile Ser Lys Asn Val Gly Ala Met Ser Arg Ile Phe Ser Arg  
 195 200 205  
 Trp Leu His His Pro Ala Thr Asn Lys Leu Thr Lys Gln Val Glu Lys  
 210 215 220  
 Trp Leu Ala Lys Ile Pro Arg Tyr Gly Asp Ser Leu Ala Lys His Ser  
 225 230 235 240  
 Arg Arg Leu Ser Gln Cys Val Lys Asn Leu Phe Cys Pro Thr Pro Leu  
 245 250 255  
 Phe Glu Gln Phe Gly Leu Ala Tyr Val Gly Pro Ile Asp Gly His Asn  
 260 265 270  
 Val Lys Lys Leu Ile Pro Ile Leu Gln Ser Val Arg Asn Leu Pro Phe  
 275 280 285  
 Pro Ile Leu Val His Val Cys Thr Thr Lys Gly Lys Gly Leu Asp Gln  
 290 295 300  
 Ala Gln Asn Asn Pro Ala Lys Tyr His Gly Val Arg Ala Asn Phe Asn  
 305 310 315 320  
 Lys Arg Glu Ser Ala Lys His Leu Pro Ala Ile Lys Pro Lys Pro Ser  
 325 330 335  
 Phe Pro Asp Ile Phe Gly Gln Thr Leu Cys Glu Leu Gly Glu Val Ser  
 340 345 350  
 Ser Arg Leu His Val Val Thr Pro Ala Met Ser Ile Gly Ser Arg Leu  
 355 360 365  
 Glu Gly Phe Lys Gln Lys Phe Pro Glu Arg Phe Phe Asp Val Gly Ile  
 370 375 380  
 Ala Glu Gly His Ala Val Thr Phe Ser Ala Gly Ile Ala Lys Ala Gly  
 385 390 395 400  
 Asn Pro Val Ile Cys Ser Ile Tyr Ser Thr Phe Leu His Arg Ala Leu  
 405 410 415  
 Asp Asn Val Phe His Asp Val Cys Met Gln Asp Leu Pro Val Ile Phe  
 420 425 430  
 Ala Ile Asp Arg Ala Gly Leu Ala Tyr Gly Asp Gly Arg Ser His His  
 435 440 445  
 Gly Ile Tyr Asp Met Ser Phe Leu Arg Ala Met Pro Gln Met Ile Ile  
 450 455 460  
 Cys Gln Pro Arg Ser Gln Val Val Phe Gln Gln Leu Leu Tyr Ser Ser  
 465 470 475 480  
 Leu His Trp Ser Ser Pro Ser Ala Ile Arg Tyr Pro Asn Ile Pro Ala  
 485 490 495  
 Pro His Gly Asp Pro Leu Thr Gly Asp Pro Asn Phe Leu Arg Ser Pro  
 500 505 510

Gly Asn Ala Glu Thr Leu Ser Gln Gly Glu Asp Val Leu Ile Ile Ala  
           515                          520                          525  
 Leu Gly Thr Leu Cys Phe Thr Ala Leu Ser Ile Lys His Gln Leu Leu  
           530                          535                          540  
 Ala Tyr Gly Ile Ser Ala Thr Val Val Asp Pro Ile Phe Ile Lys Pro  
 545                          550                          555                          560  
 Phe Asp Asn Asp Leu Phe Ser Leu Leu Leu Met Ser His Ser Lys Val  
                           565                          570                          575  
 Ile Thr Ile Glu Glu His Ser Ile Arg Gly Gly Leu Ala Ser Glu Phe  
                           580                          585                          590  
 Asn Asn Phe Val Ala Thr Phe Asn Phe Lys Val Asp Ile Leu Asn Phe  
           595                          600                          605  
 Ala Ile Pro Asp Thr Phe Leu Ser His Gly Ser Lys Glu Ala Leu Thr  
           610                          615                          620  
 Lys Ser Ile Gly Leu Asp Glu Ser Ser Met Thr Asn Arg Ile Leu Thr  
 625                          630                          635                          640  
 His Phe Asn Phe Arg Ser Lys Lys Gln Thr Val Gly Asp Val Arg Val  
                           645                          650                          655

<210> 1062  
 <211> 89  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1062  
 Phe Gly Ser Leu Met Val Glu Ile His His Lys Asp Pro Ser Leu Lys  
   1                          5                          10                          15  
 Lys Leu Phe Ala Leu Gln Gln Ser Leu Glu Thr Leu Asn Ser Leu Ser  
           20                          25                          30  
 Asp Ile Val Ala Thr Tyr Glu Ala Met Phe Ser Leu Ile Tyr Glu Gly  
           35                          40                          45  
 Leu Asn Lys Ala Leu Arg Lys Asp Gln Leu Cys Tyr Leu Leu Ser Val  
           50                          55                          60  
 Asn Ser Lys Gly Glu Leu Leu Lys Ser Pro Ser Gly Asp Pro Ile Val  
 65                          70                          75                          80  
 Gln Thr Phe Pro Ile His Pro His His  
                           85

<210> 1063  
 <211> 559  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1063  
 Arg Gly Phe Pro Val Met Ser Ser Pro Pro Gln Ala Val Ala Ser Leu  
   1                          5                          10                          15  
 Thr Glu Arg Ile Lys Thr Leu Leu Glu Ser Asn Phe Cys Gln Ile Ile  
           20                          25                          30  
 Val Lys Gly Glu Leu Ser Asn Val Ser Leu Gln Pro Ser Gly His Leu  
           35                          40                          45  
 Tyr Phe Gly Ile Lys Asp Ser Gln Ala Phe Leu Asn Gly Ala Phe Phe  
           50                          55                          60  
 His Phe Lys Ser Lys Tyr Tyr Asp Arg Lys Pro Lys Asp Gly Asp Ala  
 65                          70                          75                          80  
 Val Ile Ile His Gly Lys Leu Ala Val Tyr Ala Pro Arg Gly Gln Tyr  
                           85                          90                          95  
 Gln Ile Val Ala His Ala Leu Val Tyr Ala Gly Glu Gly Asp Leu Leu  
           100                          105                          110  
 Gln Lys Phe Glu Glu Thr Lys Arg Arg Leu Thr Ala Glu Gly Tyr Phe  
           115                          120                          125



Ala Thr Glu Lys Lys Lys Pro Leu Pro Phe Ala Pro Gln Cys Ile Gly  
 130 135 140  
 Val Ile Thr Ser Pro Thr Gly Ala Val Ile Gln Asp Ile Leu Arg Val  
 145 150 155 160  
 Leu Ser Arg Arg Ala Arg Asn Tyr Lys Ile Leu Val Tyr Pro Val Thr  
 165 170 175  
 Val Gln Gly Asn Ser Ala Ala His Glu Ile Ser Lys Ala Ile Glu Val  
 180 185 190  
 Met Asn Ala Glu Asn Leu Ala Asp Val Leu Ile Ile Ala Arg Gly Gly  
 195 200 205  
 Gly Ser Ile Glu Asp Leu Trp Ala Phe Asn Glu Glu Ile Leu Val Lys  
 210 215 220  
 Ala Ile His Ala Ser Thr Ile Pro Ile Val Ser Ala Val Gly His Glu  
 225 230 235 240  
 Thr Asp Tyr Thr Leu Cys Asp Phe Ala Ser Asp Val Arg Ala Pro Thr  
 245 250 255  
 Pro Ser Ala Ala Ala Glu Ile Val Cys Lys Ser Ser Glu Glu Gln Val  
 260 265 270  
 Gln Val Phe Glu Gly Tyr Leu Arg His Leu Leu Ser His Ser Arg Gln  
 275 280 285  
 Leu Leu Thr Ser Lys Lys Gln Gln Leu Leu Pro Trp Arg Arg Phe Leu  
 290 295 300  
 Asp Arg Ala Glu Phe Tyr Thr Thr Ala Gln Gln Gln Leu Asp Ser Ile  
 305 310 315 320  
 Glu Ile Ala Ile Gln Lys Gly Val Gln Gly Lys Ile His Glu Ser Lys  
 325 330 335  
 Gln Arg Tyr Asp Asn Ile Ser Arg Trp Leu Gln Gly Asp Leu Val Ser  
 340 345 350  
 Arg Met Thr Cys Arg Leu Gln Ser Leu Lys Lys Met Leu Ser Gln Ala  
 355 360 365  
 Leu Ser His Lys Ala Leu Ser Leu Gln Val Arg Cys His Gln Leu Lys  
 370 375 380  
 Lys Ser Leu Thr Tyr Pro Arg Gln Ile Gln Gln Ala Ser Gln Lys Leu  
 385 390 395 400  
 Ser Pro Trp Arg Gln Gln Leu Asp Thr Leu Ile Ser Arg Arg Leu His  
 405 410 415  
 Tyr Gln Lys Glu Glu Tyr Phe His Lys His Thr Arg Leu Lys His Ala  
 420 425 430  
 His Asn Val Leu Glu Gln Gln Leu Arg Ser His Val Gln Lys Leu Glu  
 435 440 445  
 Leu Leu Gly Arg Arg Leu Ser Arg Gly Cys Glu Leu Asn Leu Gln Asn  
 450 455 460  
 Gln Lys Ile Ala Tyr Ala Asn Val Lys Glu Thr Leu Ala Thr Ile Leu  
 465 470 475 480  
 Glu Arg Arg Tyr Glu Asn Ser Val Ala Arg Tyr Ser Ala Leu Lys Glu  
 485 490 495  
 Gln Leu His Ser Leu Asn Pro Lys Asn Val Leu Lys Arg Gly Tyr Ala  
 500 505 510  
 Met Leu Phe Asp Phe Asn Glu Asn Ser Ala Met Ile Ser Val Asp Ser  
 515 520 525  
 Leu Gln Glu Asn Ala Arg Val Arg Ile Gln Leu Gln Asp Gly Glu Ala  
 530 535 540  
 Ile Leu Thr Val Thr Asn Ile Glu Ile Cys Lys Leu Ile Lys Gly  
 545 550 555

<210> 1064  
 <211> 271  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1064

Phe	Cys	Arg	Glu	Ser	Met	Arg	Ile	Lys	Phe	Arg	Glu	Asn	Lys	Glu	Arg
1				5					10					15	
Lys	Met	Thr	Arg	Gln	Ser	Tyr	Val	Leu	Gly	Asn	Trp	Lys	Met	His	Lys
			20					25					30		
Thr	Ile	Gln	Glu	Ala	Lys	Glu	Tyr	Val	Gln	Thr	Leu	Ala	Ser	Leu	Leu
		35					40					45			
Gln	Gly	Glu	Pro	Leu	Ser	Cys	Thr	Ile	Gly	Ile	Ala	Ser	Pro	Phe	Thr
	50					55				60					
Ser	Leu	Arg	Ala	Ile	His	Glu	Val	Ile	Asn	Thr	Thr	Gly	Ala	Phe	Leu
65					70				75					80	
Trp	Leu	Gly	Ala	Gln	Asn	Val	His	Pro	Glu	Leu	Ser	Gly	Ala	Phe	Thr
				85				90						95	
Gly	Glu	Ile	Ser	Leu	Pro	Met	Leu	Lys	Glu	Val	Gly	Val	Glu	Phe	Val
			100					105					110		
Leu	Val	Gly	His	Ser	Glu	Arg	Arg	His	Ile	Phe	Gly	Glu	Ser	Asp	Ala
		115					120					125			
Phe	Ile	Ala	Ser	Lys	Val	Lys	Ser	Val	Ala	Gln	Ala	Gly	Leu	Val	Pro
	130					135				140					
Val	Leu	Cys	Val	Gly	Glu	Ser	Leu	Glu	Val	Arg	Glu	Glu	Gly	Lys	Ala
145					150				155					160	
His	Gln	Val	Ile	Lys	Lys	Gln	Leu	Leu	Leu	Gly	Leu	Glu	Gln	Met	Asp
			165					170						175	
Asn	Gly	Ser	Glu	Phe	Leu	Ile	Ala	Tyr	Glu	Pro	Val	Trp	Ala	Ile	Gly
		180					185						190		
Thr	Gly	Lys	Val	Ala	Glu	Ala	Ser	Asp	Val	Gln	Asp	Ile	His	Met	Phe
	195					200						205			
Cys	Arg	Glu	Val	Val	Ala	Glu	Arg	Phe	Ser	Glu	Ala	Thr	Ala	Glu	Glu
	210					215					220				
Ile	Ser	Ile	Leu	Tyr	Gly	Gly	Ser	Val	Lys	Val	Asp	Asn	Ala	Gln	Arg
225					230					235				240	
Phe	Gly	Gln	Cys	Ser	Asp	Val	Asp	Gly	Leu	Leu	Val	Gly	Gly	Ala	Ser
			245					250						255	
Leu	Glu	Gly	Gln	Ser	Phe	Phe	Glu	Val	Ala	Lys	Asn	Phe	Asn	Val	
		260					265						270		

<210> 1065  
 <211> 60  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1065

Phe	Val	Arg	Val	Met	Arg	Phe	Phe	Cys	Leu	Phe	Phe	Leu	Gly	Phe	Leu
1				5				10					15		
Gly	Ser	Phe	His	Cys	Val	Ala	Glu	Asp	Lys	Gly	Val	Asp	Leu	Phe	Gly
			20					25					30		
Val	Trp	Asp	Asp	Asn	Gln	Ile	Thr	Glu	Cys	Asp	Asp	Ser	Tyr	Met	Thr
		35				40						45			
Glu	Gly	Arg	Glu	Glu	Val	Glu	Lys	Val	Val	Asp	Ala				
	50					55				60					

<210> 1066  
 <211> 71  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1066

Arg	His	Arg	Leu	Gly	Arg	His	Arg	Arg	Thr	Ser	Asp	Pro	Cys	Phe	Leu
1				5				10					15		
Phe	Tyr	Phe	Ser	Ile	Pro	Glu	Glu	Ser	Leu	Pro	Pro	Asp	Ser	Cys	Arg
			20					25					30		

Leu Asn Gln Met Pro Lys His Glu His Leu Pro Ser Ile Leu Leu Lys  
35 40 45  
Lys Pro Ile Ile Asp Tyr Leu Lys Ile Thr Ser Ile Tyr Glu Lys Ala  
50 55 60  
Ile Phe Asn Thr Gly Leu Pro  
65 70

<210> 1067  
<211> 119  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1067  
Ser Met Ser Leu Asn Lys Glu Ile Gly Met Thr Val Leu Phe Tyr Ala  
1 5 10 15  
Phe Leu Phe Ile Phe Leu Phe Leu Cys Val Ile Leu Cys Gly Leu Ile  
20 25 30  
Leu Val Gln Glu Ser Lys Ser Met Gly Leu Gly Ser Ser Phe Gly Val  
35 40 45  
Asp Ser Gly Asp Ser Val Phe Gly Val Ser Thr Pro Asp Ile Leu Lys  
50 55 60  
Lys Val Thr Ser Trp Cys Ala Val Ala Phe Cys Ile Gly Cys Leu Leu  
65 70 75 80  
Leu Ser Phe Ser Thr Asn Leu Leu Gly Lys Lys Leu Asp Ala Lys Glu  
85 90 95  
Phe Leu Leu Pro Ala Ala Glu Glu Ser Asp Thr Gln Ala Ser Ser Glu  
100 105 110  
Ser Val Glu Ala Asp Glu Ser  
115

<210> 1068  
<211> 206  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1068  
Ile Gln Val Leu Val Val Arg Asp Phe Phe Thr Glu Leu Cys Gln Ala  
1 5 10 15  
His Val Gln Thr Met Ile Arg Arg Leu Glu Tyr Tyr Gly Ser Pro Ile  
20 25 30  
Leu Arg Lys Lys Ser Ser Pro Ile Ala Glu Ile Thr Asp Glu Ile Arg  
35 40 45  
Asn Leu Val Ser Asp Met Cys Asp Thr Met Glu Ala His Arg Gly Val  
50 55 60  
Gly Leu Ala Ala Pro Gln Val Gly Lys Asn Val Ser Leu Phe Val Met  
65 70 75 80  
Cys Val Asp Arg Glu Thr Glu Asp Gly Glu Leu Ile Phe Ser Glu Ser  
85 90 95  
Pro Arg Val Phe Ile Asn Pro Val Leu Ser Asp Pro Ser Glu Thr Pro  
100 105 110  
Ile Ile Gly Lys Glu Gly Cys Leu Ser Ile Pro Gly Leu Arg Gly Glu  
115 120 125  
Val Phe Arg Pro Gln Lys Ile Thr Val Thr Ala Met Asp Leu Asn Gly  
130 135 140  
Lys Ile Phe Thr Glu His Leu Glu Gly Phe Thr Ala Arg Ile Ile Met  
145 150 155 160  
His Glu Thr Asp His Leu Asn Gly Val Leu Tyr Ile Asp Leu Met Glu  
165 170 175  
Glu Pro Lys Asp Pro Lys Lys Phe Lys Ala Ser Leu Glu Lys Ile Lys  
180 185 190

Arg Arg Tyr Asn Thr His Leu Ser Lys Glu Glu Leu Val Ser  
 195 200 205

<210> 1069  
 <211> 301  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1069  
 Met Ser Cys Met Pro Pro Pro Phe Val Val Thr Leu Thr Thr Ser Ala  
 1 5 10 15  
 Gln Asn Asn Leu Arg Asp Gln Leu Lys Glu Lys Asn Phe Ile Phe Ser  
 20 25 30  
 Gln Pro Gln Asn Thr Val Phe Gln Ala Arg Ser Asn Thr Val Thr Cys  
 35 40 45  
 Thr Leu Tyr Pro Ser Gly Lys Leu Val Ile Gln Gly Lys Gly Ser Glu  
 50 55 60  
 Glu Phe Ile Glu Phe Phe Leu Glu Pro Glu Ile Leu His Thr Phe Thr  
 65 70 75 80  
 His Ala Arg Val Glu Gln Asp Leu Arg Pro Arg Leu Gly Val Asp Glu  
 85 90 95  
 Ser Gly Lys Gly Asp Phe Phe Gly Pro Leu Cys Ile Ala Ala Val Tyr  
 100 105 110  
 Ala Ser Asn Ala Glu Ile Leu Lys Lys Leu Tyr Glu Asn Lys Val Gln  
 115 120 125  
 Asp Ser Lys Asn Leu Lys Asp Thr Lys Ile Ala Ser Leu Ala Arg Ile  
 130 135 140  
 Ile Arg Ser Leu Cys Val Cys Asp Val Ile Ile Leu Tyr Pro Glu Lys  
 145 150 155 160  
 Tyr Asn Glu Leu Tyr Gly Lys Phe Gln Asn Leu Asn Thr Leu Leu Ala  
 165 170 175  
 Trp Ala His Ala Thr Val Ile Asn Asn Leu Ala Pro Lys Pro Ala Gly  
 180 185 190  
 Asp Val Phe Ala Ile Ser Asp Gln Phe Ala Ala Ser Glu Tyr Thr Leu  
 195 200 205  
 Leu Lys Ala Leu Gln Lys Lys Glu Thr Asp Ile Thr Leu Ile Gln Lys  
 210 215 220  
 Pro Arg Ala Glu Gln Asp Val Val Val Ala Ala Ala Ser Ile Leu Ala  
 225 230 235 240  
 Arg Asp Ala Phe Val Gln Ser Ile Gln Lys Leu Glu Glu Gln Tyr Gln  
 245 250 255  
 Val Gln Leu Pro Lys Gly Ala Gly Phe Asn Val Lys Ala Ala Gly Arg  
 260 265 270  
 Glu Ile Ala Lys Gln Arg Gly Lys Glu Leu Leu Ala Lys Ile Ser Lys  
 275 280 285  
 Thr His Phe Lys Thr Phe Asp Glu Ile Cys Ser Gly Lys  
 290 295 300

<210> 1070  
 <211> 145  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1070  
 Val Ile Met Gln Glu His Ile His Lys Glu Leu Leu His Leu Gly Glu  
 1 5 10 15  
 Ile Phe Arg Ser Ser Arg Glu Ser Gln Ser Leu Ser Leu Lys Asp Val  
 20 25 30  
 Glu Ala Ala Thr Ser Ile Arg Tyr Ser Cys Leu Glu Ala Ile Glu Gln  
 35 40 45

Gly Cys Leu Gly Lys Leu Ile Ser Pro Val Tyr Ala Gln Gly Phe Ile  
 50 55 60  
 Lys Lys Tyr Ala Thr Tyr Leu Gly Leu Asp Gly Asp Ser Ile Leu Gln  
 65 70 75 80  
 Glu His Pro Tyr Val Met Lys Ile Phe Lys Glu Phe Ser Asp His Asn  
 85 90 95  
 Met Glu Met Leu Leu Asp Leu Glu Ser Met Gly Gly Arg Asn Ser Pro  
 100 105 110  
 Glu Arg Ala Ile His Ser Trp Ser Asn Leu Trp Trp Ala Gly Leu Ile  
 115 120 125  
 Ile Ile Gly Gly Ile Met Val Trp Trp Leu Gly Ser Leu Phe Ser Ile  
 130 135 140  
 Phe  
 145

<210> 1071

<211> 460

<212> PRT

<213> Chlamydia pneumoniae

<400> 1071

Arg Arg Ser Leu Met Thr Phe Pro Cys Gly Asn Cys Asn Cys Tyr Tyr  
 1 5 10 15  
 Arg Glu Thr Pro Pro Pro Asn Pro Gly Gly Glu Asp Ile Pro Leu Gln  
 20 25 30  
 Glu Gly Gly Gln Ser Gly Ser Gln Gly Gly Arg Val Ile Thr Gln Gln  
 35 40 45  
 Pro Gly Thr Gly Gly Arg Glu Met Gly Ile Ser Leu Gly Ser Asp Asn  
 50 55 60  
 Val Leu Gly Met Val Glu Gln Ala Gly Ser Leu Leu Asn Asn Leu Leu  
 65 70 75 80  
 Asp Ser Ala Arg Met Gln Arg Leu Gly His Tyr Cys Tyr Arg Thr Gly  
 85 90 95  
 Thr Pro Trp Cys Arg Glu His Cys Pro Gly Phe Leu Gln Trp Ile Trp  
 100 105 110  
 Gly Gly Cys Cys Ala Cys Cys Leu Glu Thr Val Asp Asp Pro Asp Asn  
 115 120 125  
 Pro Ser Ala Gln Phe Leu Gln Gln Leu Ile Gln Gln Tyr Gly Pro Ile  
 130 135 140  
 Cys Val Gly Met Ser Phe Gln Gln Leu Pro His Cys Thr Gln Lys Ile  
 145 150 155 160  
 Glu Gln Gly Glu Pro Leu Gly Asp Gly Asp Lys Gln Glu Val Glu Asn  
 165 170 175  
 Gly Cys Lys Leu His Arg Glu Leu Leu Lys Ala Ala Gln Pro Arg Cys  
 180 185 190  
 Met Gly Glu Ser Leu Val Lys Leu Leu Gln Asn Asn Gly Leu Gly Glu  
 195 200 205  
 Asp Met Gln Gln Thr Pro Pro Trp Ser Leu Ile Leu Gln Ala Val Ser  
 210 215 220  
 Glu Gly Ala Leu Ser Phe Val Thr Ser Ser Asp Asn Pro Pro Thr Cys  
 225 230 235 240  
 Trp Ile Leu Gln Pro Glu Gln Gln Pro Cys Pro Pro Pro Pro Thr Asp  
 245 250 255  
 Glu Glu Gln Leu Gln Gly Ala Val Gly Gly Ala Pro Ala Pro Gln Gln  
 260 265 270  
 Lys Lys His Pro Ala Gln Glu Cys Arg Val Thr Cys Lys Leu Asn Phe  
 275 280 285  
 Arg Thr Leu Leu Gln Lys Leu Ser Arg Leu Glu Val Leu Ser Leu Glu  
 290 295 300  
 Ser Gly Tyr Lys Gly Pro Leu Gly Gln Ala Ala Lys Gln Ile Val Asp  
 305 310 315 320

Leu Ile Lys Lys Ser Leu Lys Arg Leu Val Ala Ser Asp Leu Ala Thr  
 325 330 335  
 Phe Leu Gly Pro Gly Ile Gly Leu Ser Leu Glu Ser Gln Val Phe Glu  
 340 345 350  
 Val Leu Val Leu Leu Cys Leu Leu Ser Lys Gly Tyr Leu Pro Leu Asp  
 355 360 365  
 Pro Leu His Pro Glu Gln Thr Val Leu Asp Pro Arg Val Gln Gly Pro  
 370 375 380  
 Trp Gln Arg Ile Leu Arg Lys Val Leu Val Thr Thr Thr Ala Gly Glu  
 385 390 395 400  
 Asn Ile Trp Arg Gln Thr Gln Gly Glu Ala Pro Arg Gln Ala Pro Pro  
 405 410 415  
 Pro Pro Asp Pro Trp Asp Asp Asp Glu Ile Glu Arg Asp Gly Ile Val  
 420 425 430  
 Thr Gly Gly Gly Phe Gly Ile Pro Cys Gln Cys Leu Arg Cys Trp Arg  
 435 440 445  
 Lys Leu Pro Thr Glu Lys Arg Pro Asn Arg Trp Leu  
 450 455 460

<210> 1072

<211> 484

<212> PRT

<213> Chlamydia pneumoniae

<400> 1072

Lys Gly Thr Thr Met Val Cys Pro Asn Asn Ser Trp Phe Arg Met Cys  
 1 5 10 15  
 Gly Asn Phe Asn Cys Glu Trp Val Glu Val Thr Thr Thr Glu Glu Thr  
 20 25 30  
 Thr Arg Gln Ser Ala Ser Asp Ile Ser Glu Glu Ala Gly Ser Ser Gly  
 35 40 45  
 Gly Ala Ala Pro Ile Thr Thr Gln Pro Thr Lys Ile Thr Lys Val Glu  
 50 55 60  
 Lys Arg Val Gln Phe Asn Thr Ala Gln Gly Asp Glu Ser Thr Ile His  
 65 70 75 80  
 Met Ile Gln Glu Ala Gly Glu Leu Val Asp Ser Ile Leu Ser His Arg  
 85 90 95  
 Arg Thr Gln Gly Cys Thr Glu Tyr Cys Tyr Asp Ser Tyr Ala Thr Gly  
 100 105 110  
 Cys Gly Gln Arg Cys Gly Ser Phe Gly Arg Leu Ile Cys Gly Thr Tyr  
 115 120 125  
 Lys Ala Cys Cys Leu Asp Arg Glu Asp Asn Gln Val Ala Gly Leu Val  
 130 135 140  
 His Glu Cys Glu Gln Thr His Gly Pro Ile Ala Val Ala Leu Ala Ala  
 145 150 155 160  
 Lys Thr Met Gly Leu Asn Leu Met Glu Leu Val Glu Lys Asn Thr Ile  
 165 170 175  
 Leu Ser Glu Glu Gln Lys Asn Glu Phe Arg Gln His Cys Ser Glu Ala  
 180 185 190  
 Lys Thr Gln Leu Tyr Gly Thr Met Gln Ser Leu Ser Gln Asn Phe Phe  
 195 200 205  
 Leu Glu Gly Val Asn Ser Ile Arg Glu Arg Gly Leu Asp Asp Ser Leu  
 210 215 220  
 Val Gln Ala Val Leu Ser Phe Ile Ala Thr Arg Ser Trp Glu Lys Thr  
 225 230 235 240  
 Ile Glu Ser Glu Glu Ala Ser Gly Thr Ser Ser Ala Ser Asn Ser Thr  
 245 250 255  
 Arg Ile Pro Ala Cys Tyr Ile Leu Asn Thr Ser Pro Leu Thr Thr Ser  
 260 265 270  
 Arg Leu Ser Cys Gly Ser Arg Asp Ala Arg Arg Pro Ser Ser Val Gly  
 275 280 285

Ala Glu Pro Gln Tyr Val Ala Lys Lys Tyr Asn Asp Asn Gly Met Ala  
 290 295 300  
 Arg Gln Leu Gly Lys Ile Gln Val Thr Asn Leu Lys Thr Gly Asp Phe  
 305 310 315 320  
 Ser Ala Leu Gly Pro Phe Gly Leu Leu Ile Val Lys Met Leu Asn Ser  
 325 330 335  
 Phe Leu Leu Ser Ala Ser Gln Ser Thr Ser Ser Ile Leu Lys His Thr  
 340 345 350  
 Gly Gly Glu Ile Cys Tyr Thr Cys Pro Asn Phe Arg Asp Ile Val Val  
 355 360 365  
 Leu Leu Met Leu Ala Ile Gly Tyr Cys Pro Ala Asn Thr Asp Glu Thr  
 370 375 380  
 Ser Val val Asp Ile His Met Ile Asp Asp Pro Ile Met Thr Ile Phe  
 385 390 395 400  
 Tyr Arg Leu Gln Tyr Ser Tyr Arg Thr Gly Lys Thr Ser Ala Ser Phe  
 405 410 415  
 Leu Lys Lys Lys Pro Ser Leu Val Arg Gln Glu Ser Leu Asp Cys Pro  
 420 425 430  
 Thr Pro Ala Glu Ser Val Pro Leu Met Ser Ser Leu Glu Glu Asp  
 435 440 445  
 Glu Asn Glu Asp Asp Asp Glu Asp Gly Asn Leu Ala Tyr Gln Gln Arg  
 450 455 460  
 Ile Leu Glu Cys Ser Gly His Leu Gln Thr Leu Phe Leu Gly Ile Lys  
 465 470 475 480  
 Ile Asn Lys Glu

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<210> 1073

<211> 304

<212> PRT

<213> Chlamydia pneumoniae

<400> 1073

Lys Leu Asp Tyr Ile Leu His Ala Asn Trp Cys Cys Trp Lys Gln Met  
 1 5 10 15  
 Leu Lys Ile Gln Lys Lys Arg Met Cys Val Ser Val Val Ile Thr Val  
 20 25 30  
 Gly Ala Ile Val Gly Phe Phe Asn Ser Ala Asp Ala Ala Pro Lys Lys  
 35 40 45  
 Lys Lys Ile Pro Ile Gln Ile Leu Tyr Ser Phe Thr Lys Val Ser Ser  
 50 55 60  
 Tyr Leu Lys Asn Glu Asp Ala Ser Thr Ile Phe Cys Val Asp Val Asp  
 65 70 75 80  
 Arg Gly Leu Leu Gln His Arg Tyr Leu Gly Ser Pro Gly Trp Gln Glu  
 85 90 95  
 Thr Arg Arg Arg Gln Leu Phe Lys Ser Leu Glu Asn Gln Ser Tyr Gly  
 100 105 110  
 Asn Glu Arg Leu Gly Glu Glu Thr Leu Ala Ile Asp Ile Phe Arg Asn  
 115 120 125  
 Lys Glu Cys Leu Glu Ser Glu Ile Pro Glu Gln Met Glu Ala Ile Leu  
 130 135 140  
 Ala Asn Ser Ser Ala Leu Val Leu Gly Ile Ser Ser Phe Gly Ile Thr  
 145 150 155 160  
 Gly Ile Pro Ala Thr Leu His Ser Leu Leu Arg Gln Asn Leu Ser Phe  
 165 170 175  
 Gln Lys Arg Ser Ile Ala Ser Glu Ser Phe Leu Leu Lys Ile Asp Ser  
 180 185 190  
 Ala Pro Ser Asp Ala Ser Val Phe Tyr Lys Gly Val Leu Phe Arg Gly  
 195 200 205  
 Glu Thr Ala Ile Val Asp Ala Leu Ser Gln Leu Phe Ala Gln Leu Asp  
 210 215 220

Leu Ser Pro Lys Lys Ile Ile Phe Leu Gly Glu Asp Pro Glu Val Val  
 225 230 235 240  
 Gln Ala Val Gly Ser Ala Cys Ile Gly Trp Gly Met Asn Phe Leu Gly  
 245 250 255  
 Leu Val Tyr Tyr Pro Ala Gln Glu Ser Leu Phe Ser Tyr Val His Pro  
 260 265 270  
 Tyr Ser Thr Ala Thr Glu Leu Gln Glu Ala Gln Gly Leu Gln Val Ile  
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<400> 1074

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 Leu Lys Phe Ala Arg Glu Lys Thr Leu Val Cys Phe Asn Ile Glu Asp  
 35 40 45  
 Thr Val Val Phe Pro Lys Gln Met Val Gly Gln Ser Ala Trp Leu Tyr  
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 Asn Arg Glu Leu Asp Leu Lys Thr Thr Leu Ser Glu Glu Gln Ala Arg  
 65 70 75 80  
 Glu Gln Ala Phe Leu Glu Trp Met Gly Ile Ser Phe Leu Val Asp Tyr  
 85 90 95  
 Glu Leu Val Ser Ala Asn Leu Arg Asn Val Leu Thr Gly Leu Ser Leu  
 100 105 110  
 Lys Arg Ser Trp Val Leu Gly Ile Ser Gln Arg Pro Val His Leu Ile  
 115 120 125  
 Lys Asn Thr Leu Arg Ile Leu Arg Ser Phe Asn Ile Asp Phe Thr Ser  
 130 135 140  
 Cys Pro Ala Ile Cys Glu Asp Gly Trp Leu Ser His Pro Thr Lys Asp  
 145 150 155 160  
 Thr Thr Phe Asp Gln Ala Met Ala Ile Glu Lys Asn Ile Leu Phe Val  
 165 170 175  
 Gly Ser Leu Lys Asn Gly Gln Pro Met Asp Ala Ala Leu Glu Val Leu  
 180 185 190  
 Leu Ser Gly Ile Ser Ser Pro Pro Ser Gln Ile Ile Tyr Val Asp Gln  
 195 200 205  
 Asp Ala Glu Arg Leu Arg Ser Ile Gly Ala Phe Cys Lys Lys Ala Asn  
 210 215 220  
 Ile Tyr Phe Ile Gly Met Leu Tyr Thr Pro Ala Lys Gln Arg Val Glu  
 225 230 235 240  
 Ser Tyr Asn Pro Lys Leu Thr Ala Ile Gln Trp Ser Gln Ile Arg Lys  
 245 250 255  
 Asn Leu Ser Asp Glu Tyr Tyr Glu Ser Leu Leu Ser Tyr Val Lys Ser  
 260 265 270  
 Lys

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